ACIDIC PRECIPITATION IN ONTARIO STUDY

CUMULATIVE (28 DAY) PRECIPITATION CHEMISTRY LISTINGS JANUARY 3, 1984 - JANUARY 2, 1985

December, 1985

Ministry of the Environment

Dr. David Balsillie, Director
Air Resources Branch

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December 1985

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PART I

INTRODUCTION

INTRODUCTION

The data listed herein are a summary of the results acquired from the APIOS cumulative precipitation sampling network from January 3, 1984 to January 2, 1985. The sampler utilized for colleciton of wet cumulative deposition is the M.L.C. Type "A" collector (Sangamo). During May to October when precipitation is mainly in the form of rain, the Sangamo collector is equipped with a 34 cm x 61 cm polyethylene bag insert. For snow and snow/rain collection from November to April, deeper collection vessels are utilized (122 cm) with 34 cm x 122 cm polyethylene bag inserts. The deeper collection vessel is utilized to reduce snow blow out. The period of accumulation per sample is 28 days.

All data presented in this report have been screened for validity. Remarks and qualifications have been appended to records, and/or results where necessary. The screening procedure involved checking each record for chemical analysis integrity (e.g. ionic balance, observed vs. theoretical conductance). Gross limits checks were applied to the results. Upper limits were determined as M + 2S where median (M) and scale (S) represent robust estimates of mean and standard deviation respectively. Scale of the distribuiton was estimated from interquartile distance , i.e. S=0.74 (3rd quartile - 1st quartile) based upon logarithmically transformed results. In a situation where the distribuiton is significantly bounded by reported detection limits, S may be estimated as follows, S=1.48 (3rd quartile - 2nd quartile). All lower gross limits were specified as zero. The data were also screened for outliers statistically by applying the Dixon Ratio test to the highest and lowest values observed in each region on a monthly basis. Outliers were determined at the 95% level of confidence. Records and/or results deemed unreliable are flagged but not deleted. Detailed description of the validation procedures as applied to this data set is available from the Ministry upon request.

Station Identification

The station identification is defined by four descriptive fields (e.g., Dorest/Cumulative/Wet #20). The first field refers to the sampling location. The second and third fields describe the sampling interval and the sampling type (e.g., wet or dry) respectively. The last numeric field refers to the index code utilized on the location map. All precipitation chemistry listings are given in alphabetic order by station name within each region.

Cumulative Precipitation Chemistry Listings

Sample type, as coded in the data listings, represents the state of the collected sample at time of removal. The sample date represents the date on which the sample was removed from the sampler. All chemical analyses were done on unfiltered samples. Lab pH entries represent pH measurements obtained at the MOE Laboratory in Toronto. Reported total hydrogen ion concentraiton (mg l^{-1}) represents a titration of the sample with NaOH to an end point pH of 8.3. For a complete outline of lab analytical methodology please consult the Ontario Ministry of the Environment report "Outlines of Analytical Methods" coordinated by Water Quality Section, Laboratory Services Branch, June 1981.

Of the reported metals, aluminum, copper, iron and zinc were found to display significant adsorptive losses. As a result, a leach solution of 5% HNO_3 (1 litre) is placed in the emptied collection bag for 24 hours. The leach solution is then analysed for the above metals and a final metal concentration is then calculated. In the calculation of final metal concentration, if a detection limit is encountered, a value corresponding to one half the detection limit is utilized.

Co-located with each sampler is a cumulative precipitation gauge which serves as a primary standard of precipitation during the collection period. However, if the cumulative gauge depth is missing or is thought to be inaccurate, then an approximate precipitation depth is determined. The approximation is made by accumulating three surrounding CLIMAT* station daily depth gauge results individually and then interpolating linearly to the APIOS station. Sometimes precipitation gauge results could not be calculated by the above method, in which case the data are missing in the tables to follow.

Calculation of Equivalent Precipitation Depth (mm)

$$\text{Equivalent Precipitation Depth (mm)} = \frac{\text{Volume Collected (ml)} \times 30.8}{1000}$$

Calculation of Observed Sampling Efficiency

$$\text{\% Efficiency} = \frac{\text{Equivalent Precipitation Depth (mm)} \times 100\ \%}{\text{Gauge Depth (mm)}}$$

Field Comment Code Index

A - Insects in sample
B - Leaves in sample
C - Particulates in sample
D - Fibres in sample
E - Sample not submitted
F - Sampler malfunctioned
G - Sample spilled or leaked
H - Volume incorrect
I - Event(s) missed
J - Wet side open when not precipitating
K - No precipitation collected
L - Part of event missed
M - Dry side open when precipitating
P - Gauge depth incorrect
Q - Other

* Environment Canada, Atmospheric Environment Service Meteorological Observations in Eastern Canada, Monthly Record

Office Comment Code Index

C - calculated/observed conductance discrepancy
H - calculated/observed pH discrepancy
J - pH large
M - poor ionic balance
N - abnormal sampler efficiency
T - free hydrogen exceeds total hydrogen
X - sample lost

Analytical Result Remark Code Index

\> - actual result greater than value reported
< - actual result less than value reported
T - actual result less than criterion of detection
W - no response, minimum possible result reported
A - approximate value
U - unreliable result
L - bag leach result not available
L - bag leach result not available and precipitation sample result has been reported as a detection limit
G - exceedance of gross limit checks
D - outlier of Dixon Ratio Test
B - exceedance of gross limit checks and outlier of Dixon Ratio Test

PART II

STATION DESCRIPTION AND LOCATION MAP

APIOS CUMULATIVE WET DEPOSITION NETWORK SITE DESCRIPTIONS

MOE REGION	STATION NAME	ELEVATION (m above MSL)	LATITUDE (North)	LONGITUDE (West)	UTM GRID CO-ORDINANTS (Northing)	(Easting)
Southwestern	Colchester	183	41°59'15"	82°55'41"	4650000	340300
	Merlin	191	42°14'47"	82°13'30"	4676400	398950
	Pt. Stanley	213	42°40'22"	81°09'55"	4724050	486700
	Wilkesport	183	42°42'11"	82°21'13"	4728350	389150
	Alvinston	221	42°49'36"	81°50'04"	4942000	431550
	Shallow Lake	229	44°34'54"	81°05'24"	4936200	492850
	Palmerston	389	43°48'19"	80°54'12"	4850050	507750
	Huron Park	250	43°17'28"	81°30'03"	4793000	459350
	Waterloo	343	43°28'39"	80°35'09"	4813750	533500
Central	Dorset	320	45°13'26"	78°55'52"	5009650	662400
	Milton	221	43°31'05"	79°55'54"	4818600	586350
	Uxbridge	244	44°12'46"	79°12'38"	4896800	643000
	Wilberforce	396	45°00'54"	78°12'58"	4988150	719400
	Campbellford	175	44°17'28"	77°47'33"	4907600	277150
	Coldwater	280	44°37'31"	79°32'08"	4942200	615900
Southeastern	Smith's Falls	122	44°56'41"	75°57'48"	4977100	423950
	Dalhousie Mills	69	45°19'00"	74°28'13"	5018100	541550
	Golden Lake	160	45°36'48"	77°12'03"	5053200	328400
	Cloyne	259	40°49'09"	77°11'45"	4964750	327100
Northeastern	McKellar	244	45°30'57"	79°55'19"	5040600	583950
	Killarney	183	45°59'26"	81°29'18"	5092900	462200
	Mattawa	198	46°16'45"	78°49'19"	5127150	667800
	Bear Island	305	46°58'22"	80°04'40"	5202400	570350
	Ramsey	427	47°26'33"	82°20'14"	5254900	399200
	Azure Lake	244	47°28'12"	81°52'30"	5257650	434250
	Gowganda	343	47°39'04"	80°46'32"	5277300	516600
	Moonbeam	244	49°19'16"	82°08'46"	5463600	416650
	Turkey Lake	472	47°03'15"	84°24'00"	5214250	696750
	Attawapiskat	9	52°56'00"	82°24'00"	NA	NA
	Whitney	412	45°32'21"	78°15'35"	5045950	713950
Northwestern	Dorion	244	48°50'33"	88°36'45"	5410800	382150
	Nakina	320	50°10'38"	86°42'40"	5558150	520950
	Geraldton	351	49°48'05"	86°46'00"	5516300	516750
	Ear Falls	350	50°38'31"	93°13'13"	5609800	484150
	Pickle Lake	360	51°27'41"	90°12'04"	5704800	694550
	Lac la Croix	368	48°21'14"	92°1232"	5355900	558400
	Quetico Centre	420	48°44'24"	91°12'08"	5399750	632100
	E.L.A.	123	49°39'22"	93°43'28"	5500950	447350
	Winisk	9	55°12'00"	85°08'00"	NA	NA
	Otter Island	204	48°06'50"	86°04'25"	5328750	569500

LOCATION OF APIOS CUMULATIVE WET/DRY DEPOSITION NETWORK SITES

1. Colchester*
2. Merlin
3. Pt. Stanley*
4. Wilkesport*
5. Alvinston
6. Huron Park
7. Waterloo
8. Palmerston*
9. Shallow Lake*
10. Milton (removed March 1984)
11. Uxbridge*
12. Coldwater
13. Campbellford*
14. Cloyne*
    (replacing Kaladar, June 1983)
15. Smith's Falls*
16. Dalhousie Mills*
17. Golden Lake*
18. Wilberforce
19. Whitney
20. Dorset*
21. McKellar*
22. Mattawa*
23. Killarney*
24. Bear Island
25. Gowganda*
26. Azure Lake
    (replacing Ramsey, June 1983)
27. Moosbeam*
28. Attawapiskat
    (removed February 1984)
29. Winisk
30. Geraldton*
    (replacing Nakina, August 1983)
31. Dorion*
32. Quetico Centre*
33. Lac la Croix
34. Experimental Lakes Area
35. Ear Falls*
36. Pickle Lake*
37. Turkey Lake*
38. Moosonee*
    (installed October, 1985)
39. Otter Island*
    (operated only during "summer" periods)

* indicates both a dry and wet deposition network site

PART III

SOUTHWESTERN REGION

CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : ALVINSTON/CUMULATIVE PRECIP. #05 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	830	830	2	32.0	0	19608	2	1	82		
FEB 28,84	JAN 31,84	830	830	3	56.6	9	19621	2	1	76	CD	
MAR 27,84	FEB 28,84	830	800	1	94.0	0	19633	2	1	83	C	
APR 24,84	MAR 27,84	800	830	1	71.6	9	19646	2	1	60	BCD	
MAY 22,84	APR 24,84	830	1100	1	60.2	9	19657	2	1	43		
JUN 19,84	MAY 22,84	1100	830	1	120.0	0	19668	2	1	U 57	ABDQJC	
JUL 17,84	JUN 19,84	830	1410	1	87.0	0	19678	2	1	90	CD	
AUG 14,84	JUL 17,84	1410	800	1	51.0	0	19688	2	1	81		MM
SEP 11,84	AUG 14,84	830	800	1	134.0	0	19704	2	1	97		
OCT 9,84	SEP 11,84	800	800	1	80.0	0	19703	2	1	73		
NOV 6,84	OCT 9,84	830	830	3	52.9	9	19714	2	1	81		
DEC 4,84	NOV 6,84	830	800	3	76.0	0	19735	2	1	U 55	G	
JAN 2,85	DEC 4,84	800	800	3	96.0	0	19748	2	1	96		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	859.0	43.6	4.13	0.0986	3.30	1.20	0.62
FEB 28,84	JAN 31,84	1399.0	21.1	G 5.05	0.0360	3.75	0.58	1.55
MAR 27,84	FEB 28,84	2553.0	25.5	4.65	0.0510	3.50	0.54	0.98
APR 24,84	MAR 27,84	1402.0	46.6	4.12	0.1112	4.55	1.14	0.93
MAY 22,84	APR 24,84	854.0	34.9	U 7.11	0.0216	6.75	1.03	U 2.36
JUN 19,84	MAY 22,84	2225.0	U 80.0	U 3.92	0.1616	U 11.75	U 1.43	2.00
JUL 17,84	JUN 19,84	2557.0	46.5	4.05	0.1036	5.50	0.61	0.44
AUG 14,84	JUL 17,84	1355.0	U 100.0	U 8.48	U 0.0000	U 2.30	U 0.02	U 18.00
SEP 11,84	AUG 14,84	4242.0	45.0	4.07	0.1182	5.15	0.55	0.27
OCT 9,84	SEP 11,84	1916.0	22.9	4.40	0.0622	2.50	0.34	0.26
NOV 6,84	OCT 9,84	1406.0	46.5	4.07	0.1146	4.40	0.61	0.22
DEC 4,84	NOV 6,84	1358.0	25.6	4.29	0.0712	2.05	0.49	0.18
JAN 2,85	DEC 4,84	3020.0	22.8	4.42	******	1.90	0.37	0.14

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : ALVINSTON/CUMULATIVE PRECIP. #05 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.54	0.79	0.120	<T 0.015	0.225	0.670	0.015
FEB 28,84	JAN 31,84	0.25	0.23	0.270	0.115	0.135	0.068	0.023
MAR 27,84	FEB 28,84	0.41	0.43	0.185	D 0.115	0.260	0.220	0.017
APR 24,84	MAR 27,84	0.31	0.25	0.170	0.065	0.095	0.540	0.017
MAY 22,84	APR 24,84	0.33	1.82	0.470	0.225	0.125	1.300	0.069
JUN 19,84	MAY 22,84	D 0.38	U 1.55	U 0.400	U 0.260	0.090	1.000	U 0.046
JUL 17,84	JUN 19,84	0.14	0.84	0.070	0.045	0.030	0.760	0.005
AUG 14,84	JUL 17,84	U 4.80	U 0.04	U *****	U 1.500	U *****	U 0.005	U 0.012
SEP 11,84	AUG 14,84	0.20	0.63	0.050	D 0.045	0.020	0.595	0.005
OCT 9,84	SEP 11,84	0.11	0.29	0.035	0.040	0.040	0.255	<T 0.002
NOV 6,84	OCT 9,84	0.27	0.44	0.040	0.060	0.085	0.375	<W 0.001
DEC 4,84	NOV 6,84	0.19	0.32	0.025	<T 0.005	0.080	0.260	0.006
JAN 2,85	DEC 4,84	0.16	0.28	0.020	0.030	0.075	0.215	0.005

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REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.012	0.002	0.021	0.119	0.014	< 0.002	0.086
FEB 28,84	JAN 31,84	0.013	< 0.001	0.024	0.074	0.021	< 0.002	0.080
MAR 27,84	FEB 28,84	0.008	0.003	0.034	0.092	0.007	< 0.002	0.099
APR 24,84	MAR 27,84	0.006	< 0.001	0.012	0.080	0.022	< 0.002	0.061
MAY 22,84	APR 24,84	U 0.023	< 0.001	0.019	U 0.523	0.015	< 0.002	U 0.559
JUN 19,84	MAY 22,84	U 0.018	< 0.001	0.011	U 0.209	U 0.012	< 0.002	U 0.248
JUL 17,84	JUN 19,84	0.003	< 0.001	0.017	0.044	0.003	< 0.002	0.036
AUG 14,84	JUL 17,84	U 0.018	U 0.001	U 0.159	U 0.044	U 0.026	U 0.002	U 0.092
SEP 11,84	AUG 14,84	0.004	< 0.001	0.008	0.025	0.007	< 0.002	0.030
OCT 9,84	SEP 11,84	0.003	< 0.001	0.004	0.016	0.006	< 0.002	0.027
NOV 6,84	OCT 9,84	0.002	0.000	0.026	0.025	0.004	0.000	0.033
DEC 4,84	NOV 6,84	0.003	0.000	0.007	0.026	0.006	0.000	0.027
JAN 2,85	DEC 4,84	0.001	0.000	0.004	0.017	0.003	< 0.000	0.013

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : ALVINSTON/CUMULATIVE PRECIP. #05

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	0.002	0.0011	0.0741
FEB 28,84	JAN 31,84	< 0.002	0.0007	G 0.0089
MAR 27,84	FEB 28,84	0.002	G 0.0028	0.0224
APR 24,84	MAR 27,84	0.002	G 0.0022	0.0759
MAY 22,84	APR 24,84	0.005	0.0005	U 0.0001
JUN 19,84	MAY 22,84	0.002	0.0002	U 0.1202
JUL 17,84	JUN 19,84	0.001	0.0002	0.0891
AUG 14,84	JUL 17,84	U 0.028	U 0.0003	U 0.0000
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0851
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0398
NOV 6,84	OCT 9,84	0.002	0.0004	0.0851
DEC 4,84	NOV 6,84	0.001	0.0007	0.0513
JAN 2,85	DEC 4,84	0.001	0.0002	0.0380

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : COLCHESTER/CUMULATIVE PRECIP. #01 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	820	805	3	22.0	0	19601	2	1	U 77	FJ	
FEB 28,84	JAN 31,84	805	806	3	25.0	0	19616	2	1	U 78	FC	
MAR 27,84	FEB 28,84	816	800	3	87.0	0	19627	2	1	U 66	G	
APR 24,84	MAR 27,84	800	805	1	69.0	0	19641	2	1	79	AC	
MAY 22,84	APR 24,84	805	735	1	72.0	0	19652	2	1	90	AC	
JUN 19,84	MAY 22,84	735	755	1	126.0	0	19663	2	1	U 75	ACF	
JUL 17,84	JUN 19,84	810	740	1	31.0	0	19673	2	1	73	CD	
AUG 14,84	JUL 17,84	740	800	1	66.0	0	19683	2	1	74	B	
SEP 11,84	AUG 14,84	803	758	1	79.0	0	19706	2	1	86		
OCT 8,84	SEP 11,84	812	802	1	51.0	0	19707	2	1	98		
NOV 6,84	OCT 8,84	802	1130	3	59.0	0	19712	2	1	87	C	
DEC 4,84	NOV 6,84	1130	800	3	57.0	0	19730	2	1	83	C	
JAN 1,85	DEC 4,84	815	430	3	52.0	0	19746	2	1	U 59	CG	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	557.0	38.6	4.18	0.1010	2.35	0.91	0.40
FEB 28,84	JAN 31,84	640.0	30.2	4.48	0.0646	4.05	0.90	1.32
MAR 27,84	FEB 28,84	1887.0	30.1	4.30	0.0810	2.90	0.49	0.43
APR 24,84	MAR 27,84	1775.0	27.6	U 6.79	0.0360	5.20	0.91	1.26
MAY 22,84	APR 24,84	2123.0	32.7	4.62	D 0.0538	5.55	0.74	1.16
JUN 19,84	MAY 22,84	3099.0	36.7	4.20	0.0936	4.30	0.48	0.30
JUL 17,84	JUN 19,84	735.0	63.5	3.91	0.1412	7.20	0.75	0.60
AUG 14,84	JUL 17,84	1607.0	63.5	3.97	0.1388	6.30	0.89	0.68
SEP 11,84	AUG 14,84	2220.0	36.3	4.21	0.0902	4.50	0.45	0.29
OCT 8,84	SEP 11,84	1636.0	40.5	4.12	0.1026	3.75	0.61	0.27
NOV 6,84	OCT 8,84	1668.0	65.6	3.85	0.1600	5.85	0.76	0.18
DEC 4,84	NOV 6,84	1551.0	26.3	4.32	0.0706	2.05	0.39	0.15
JAN 1,85	DEC 4,84	1002.0	21.0	4.76	******	2.75	0.38	0.75

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : COLCHESTER/CUMULATIVE PRECIP. #01 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.72	0.36	0.085	<T 0.005	0.475	0.210	0.015
FEB 28,84	JAN 31,84	0.46	0.46	0.340	0.020	0.240	0.410	0.006
MAR 27,84	FEB 28,84	0.23	0.26	0.105	<T 0.010	0.110	0.184	0.008
APR 24,84	MAR 27,84	0.57	0.83	0.255	B 0.240	0.175	1.600	0.025
MAY 22,84	APR 24,84	0.26	1.11	0.260	0.090	0.095	1.000	0.025
JUN 19,84	MAY 22,84	0.19	0.63	0.085	0.040	0.040	0.500	0.006
JUL 17,84	JUN 19,84	0.34	1.00	0.165	0.055	0.055	0.835	0.012
AUG 14,84	JUL 17,84	0.24	0.67	0.185	0.060	0.035	0.585	0.030
SEP 11,84	AUG 14,84	0.16	0.54	0.075	0.025	0.045	0.500	0.010
OCT 8,84	SEP 11,84	0.26	0.42	0.045	0.025	0.035	0.320	0.016
NOV 6,84	OCT 8,84	0.32	0.47	0.050	0.015	0.085	0.385	<T 0.001
DEC 4,84	NOV 6,84	0.22	0.25	0.025	<W 0.005	0.125	0.200	0.005
JAN 1,85	DEC 4,84	0.72	D 1.57	0.085	0.200	G 0.655	0.220	0.019

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.002	0.006	0.016	0.034	0.013	< 0.002	0.033
FEB 28,84	JAN 31,84	0.005	< 0.001	0.043	0.064	G 0.029	< 0.002	0.062
MAR 27,84	FEB 28,84	0.004	< 0.001	0.010	0.040	D 0.024	< 0.002	0.050
APR 24,84	MAR 27,84	0.014	< 0.001	D 0.037	0.202	0.019	< 0.002	0.178
MAY 22,84	APR 24,84	G 0.017	< 0.001	0.016	G 0.304	0.015	< 0.002	G 0.299
JUN 19,84	MAY 22,84	0.004	< 0.001	0.006	0.056	0.005	< 0.002	0.065
JUL 17,84	JUN 19,84	0.004	< 0.001	0.011	0.051	0.007	< 0.002	0.058
AUG 14,84	JUL 17,84	0.004	< 0.001	0.010	0.050	0.012	< 0.002	0.037
SEP 11,84	AUG 14,84	0.004	< 0.001	0.011	0.027	0.007	< 0.002	0.031
OCT 8,84	SEP 11,84	0.005	< 0.001	0.012	0.028	0.009	< 0.002	0.052
NOV 6,84	OCT 8,84	0.002	0.000	0.009	0.029	0.004	0.000	0.025
DEC 4,84	NOV 6,84	0.001	< 0.000	0.006	0.013	0.005	0.000	0.022
JAN 1,85	DEC 4,84	0.004	0.002	0.051	0.061	0.015	< 0.000	0.058

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : COLCHESTER/CUMULATIVE PRECIP. 801 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	0.003	0.0002	0.0661
FEB 28,84	JAN 31,84	0.002	0.0002	0.0331
MAR 27,84	FEB 28,84	0.001	< 0.0001	0.0501
APR 24,84	MAR 27,84	0.002	0.0003	U 0.0002
MAY 22,84	APR 24,84	0.001	0.0001	0.0240
JUN 19,84	MAY 22,84	0.001	0.0001	0.0631
JUL 17,84	JUN 19,84	< 0.002	0.0001	0.1230
AUG 14,84	JUL 17,84	0.003	0.0001	0.1072
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0617
OCT 8,84	SEP 11,84	< 0.002	0.0001	0.0759
NOV 6,84	OCT 8,84	0.001	0.0001	0.1413
DEC 4,84	NOV 6,84	0.000	0.0001	0.0479
JAN 1,85	DEC 4,84	0.007	0.0012	0.0174

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HURON PARK/CUMULATIVE PRECIP. 806 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES		SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	900	900	3	24.0	0	19613	2	1		60		
FEB 28,84	JAN 31,84	900	1000	3	36.0	0	19626	2	1		83	C	
MAR 27,84	FEB 28,84	1000	1000	3	73.0	0	19639	2	1		69	C	HM
APR 25,84	MAR 27,84	1000	1000	1	70.4	0	19651	2	1		61	CD	
MAY 22,84	APR 25,84	1000	930	1	69.7	0	19662	2	1	U	10	ABCDG	M
JUN 19,84	MAY 22,84	930	900	1	175.8	0	19672	2	1		78	CD	
JUL 17,84	JUN 19,84	900	1000	1	45.9	0	19682	2	1		74		M
AUG 14,84	JUL 17,84	1000	1030	1	39.6	0	19692	2	1	U	14	G	N
SEP 11,84	AUG 14,84	1030	930	1	155.4	0	19693	2	1	U	1	CG	
OCT 9,84	SEP 11,84	1000	900	1	63.8	0	19694	2	1		60	AC	
NOV 6,84	OCT 9,84	1000	900	3	60.2	0	19719	2	1		77		
DEC 4,84	NOV 6,84	1000	1000	3	82.1	0	19733	2	1		79		
JAN 2,85	DEC 4,84	1000	1100	2	84.0	0	19751	2	1		48		N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM		PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L		NITRATE AS N MG/L		CALCIUM MG/L	
JAN 31,84	JAN 3,84	473.0	50.5		4.26	0.1000	4.40	G	1.95		1.27	
FEB 28,84	JAN 31,84	979.0	29.4		4.61	0.0570	4.25		0.95		1.26	
MAR 27,84	FEB 28,84	1648.0	31.8	U	6.83	0.0172	5.10		8.71	U	3.90	
APR 25,84	MAR 27,84	1400.0	52.0		4.09	0.1158	5.40		1.05		0.68	
MAY 22,84	APR 25,84	230.0	D 61.2	U	7.66	0.0242	6.85		0.97	U	6.50	
JUN 19,84	MAY 22,84	4480.0	20.9	G	4.85	0.0386	3.75		0.48		1.09	
JUL 17,84	JUN 19,84	1111.0	41.4	U	7.20	0.0372	5.50		0.56		2.17	
AUG 14,84	JUL 17,84	183.0	U 74.5	U	7.35	U 0.0370	U 11.10	U	0.16	U	2.00	
SEP 11,84	AUG 14,84	73.0	*****	U	6.87	******	*****		*****		*****	
OCT 9,84	SEP 11,84	1254.0	35.5		4.26	0.0824	3.75		0.52		0.35	
NOV 6,84	OCT 9,84	1519.0	40.9		4.17	0.0990	3.90		0.61		0.29	
DEC 4,84	NOV 6,84	2123.0	30.0		4.30	0.0744	2.55		0.57		0.25	
JAN 2,85	DEC 4,84	1334.0	18.6		4.68	******	2.10		0.41		0.49	

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HURON PARK/CUMULATIVE PRECIP. 806 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	U 1.24	1.31	0.240	0.025	U 0.820	1.080	0.020
FEB 28,84	JAN 31,84	0.38	0.75	0.220	0.020	0.235	0.700	0.023
MAR 27,84	FEB 28,84	0.27	0.30	U 0.775	0.040	0.130	0.106	0.026
APR 25,84	MAR 27,84	0.21	0.35	0.110	0.040	0.045	0.920	0.012
MAY 22,84	APR 25,84	0.47	U 2.60	U 1.680	U 0.295	0.195	U 2.500	U 0.360
JUN 19,84	MAY 22,84	0.11	0.58	0.215	0.030	0.025	0.455	0.009
JUL 17,84	JUN 19,84	0.19	U 4.50	0.260	U 0.525	D 0.220	U 2.650	U 0.535
AUG 14,84	JUL 17,84	U 4.80	U *****	U 0.490	U 1.000	U 1.000	U 2.900	U *****
SEP 11,84	AUG 14,84	*****	*****	*****	*****	*****	*****	*****
OCT 9,84	SEP 11,84	0.13	0.55	0.050	0.045	0.055	0.545	<T 0.004
NOV 6,84	OCT 9,84	0.20	0.50	0.040	0.020	0.050	0.480	<W 0.001
DEC 4,84	NOV 6,84	0.19	0.51	0.035	<T 0.005	0.065	0.460	0.006
JAN 2,85	DEC 4,84	0.16	0.38	0.075	<T 0.015	0.075	0.320	0.007

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUN MG/L
JAN 31,84	JAN 3,84	0.007	0.005	0.038	0.103	U 0.050	< 0.002	0.106
FEB 28,84	JAN 31,84	0.005	0.001	0.019	0.053	0.019	< 0.002	0.034
MAR 27,84	FEB 28,84	0.001	< 0.001	0.003	0.192	0.005	< 0.002	G 0.331
APR 25,84	MAR 27,84	0.004	< 0.001	0.009	0.050	0.012	< 0.002	0.042
MAY 22,84	APR 25,84	*****	*****	*****	*****	*****	*****	*****
JUN 19,84	MAY 22,84	0.006	< 0.001	0.006	0.083	0.004	< 0.002	0.099
JUL 17,84	JUN 19,84	0.010	< 0.001	B 0.061	0.133	0.003	< 0.002	0.106
AUG 14,84	JUL 17,84	U *****	U *****	U *****	U *****	U *****	U *****	U *****
SEP 11,84	AUG 14,84	*****	*****	*****	*****	*****	*****	*****
OCT 9,84	SEP 11,84	0.003	< 0.001	0.006	0.039	0.005	< 0.002	0.063
NOV 6,84	OCT 9,84	0.003	< 0.000	0.008	0.022	0.007	0.000	0.032
DEC 4,84	NOV 6,84	0.002	< 0.000	0.006	0.013	0.005	0.000	0.017
JAN 2,85	DEC 4,84	0.003	0.002	0.006	0.042	0.005	< 0.000	0.042

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HURON PARK/CUMULATIVE PRECIP. #06 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	0.005	0.0003	0.0550
FEB 28,84	JAN 31,84	0.003	0.0001	0.0245
MAR 27,84	FEB 28,84	< 0.002	< 0.0001	U 0.0001
APR 25,84	MAR 27,84	0.002	< 0.0001	0.0813
MAY 22,84	APR 25,84	*****	******	U 0.0000
JUN 19,84	MAY 22,84	0.001	0.0001	G 0.0141
JUL 17,84	JUN 19,84	0.001	0.0004	U 0.0001
AUG 14,84	JUL 17,84	U *****	U ******	U 0.0000
SEP 11,84	AUG 14,84	*****	******	U 0.0001
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0550
NOV 6,84	OCT 9,84	0.000	0.0001	0.0676
DEC 4,84	NOV 6,84	0.001	0.0002	0.0501
JAN 2,85	DEC 4,84	0.000	0.0001	0.0209

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HERLIN/CUMULATIVE PRECIP. #02

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES		SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	700	700	2	16.0	0	19602	2	1		78		
FEB 28,84	JAN 31,84	700	800	3	54.0	0	19617	2	1		70	CD	
MAR 27,84	FEB 28,84	800	700	3	62.0	0	19628	2	1		95	C	
APR 24,84	MAR 27,84	800	700	1	60.0	0	19642	2	1	U	43	JCD	
MAY 22,84	APR 24,84	700	700	1	50.0	0	19653	2	1		82	ACD	H
JUN 19,84	MAY 22,84	700	700	1	120.0	0	19664	2	1		70	CD	
JUL 17,84	JUN 19,84	700	700	1	45.0	0	19674	2	1		65	CD	
AUG 14,84	JUL 17,84	700	700	1	45.0	0	19684	2	1		91	D	
SEP 11,84	AUG 14,84	700	700	1	74.0	0	19708	2	1		91		
OCT 9,84	SEP 11,84	700	730	1	50.0	0	19709	2	1		81		
NOV 6,84	OCT 9,84	730	730	3	52.0	0	19713	2	1		87	A	
DEC 4,84	NOV 6,84	730	730	3	88.0	0	19744	2	1		53		
JAN 2,85	DEC 4,84	730	900	3	84.2	9	19745	2	1		108		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM		PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L		CALCIUM MG/L
JAN 31,84	JAN 3,84	408.0	38.8		4.28	0.0892	3.05	1.15		1.13
FEB 28,84	JAN 31,84	1238.0	24.7		4.42	0.0646	2.75	0.46		0.57
MAR 27,84	FEB 28,84	1917.0	30.3		4.68	0.0518	4.75	0.78		1.60
APR 24,84	MAR 27,84	855.0	46.5		4.24	0.0884	5.50	1.31		1.84
MAY 22,84	APR 24,84	1345.0	40.4	U	5.84	0.0252	7.45	1.20	U	3.95
JUN 19,84	MAY 22,84	2730.0	32.8		4.50	0.0588	5.45	0.66		1.13
JUL 17,84	JUN 19,84	958.0	44.5		4.22	0.0842	6.30	0.82		1.06
AUG 14,84	JUL 17,84	1340.0	70.9		3.95	0.1480	7.20	1.07		0.58
SEP 11,84	AUG 14,84	2194.0	50.4		4.05	0.1190	5.70	0.63		0.28
OCT 9,84	SEP 11,84	1488.0	41.7		4.11	0.1032	3.95	0.63		0.23
NOV 6,84	OCT 9,84	1470.0	49.0		4.01	0.1222	4.60	0.60		0.18
DEC 4,84	NOV 6,84	1535.0	32.8		4.21	******	2.70	0.52		0.23
JAN 2,85	DEC 4,84	2953.0	22.5		4.54	******	2.40	0.36		0.46

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HERLIN/CUMULATIVE PRECIP. #02

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	U 1.22	0.50	0.205	0.050	U 0.905	0.212	0.019
FEB 28,84	JAN 31,84	0.27	0.20	0.095	<T 0.005	0.195	0.160	0.009
MAR 27,84	FEB 28,84	0.42	0.43	0.370	0.020	0.235	0.296	0.013
APR 24,84	MAR 27,84	0.45	1.13	0.310	0.060	0.165	0.535	0.078
MAY 22,84	APR 24,84	0.44	0.75	U 0.800	0.185	0.155	0.370	0.073
JUN 19,84	MAY 22,84	0.22	0.90	0.240	0.050	0.070	0.805	<T 0.004
JUL 17,84	JUN 19,84	0.17	1.11	0.215	0.050	<T 0.010	1.000	0.013
AUG 14,84	JUL 17,84	0.19	1.02	0.110	0.065	0.030	1.050	0.028
SEP 11,84	AUG 14,84	0.20	0.78	0.050	0.030	0.045	0.695	0.006
OCT 9,84	SEP 11,84	0.22	0.49	0.030	0.030	0.040	0.435	0.006
NOV 6,84	OCT 9,84	0.26	0.44	0.030	0.050	0.090	0.375	<T 0.005
DEC 4,84	NOV 6,84	0.24	0.33	0.020	<T 0.020	0.125	0.260	0.006
JAN 2,85	DEC 4,84	0.43	0.85	0.040	0.095	0.365	0.220	0.014

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.003	< 0.001	0.026	0.067	0.015	< 0.002	0.069
FEB 28,84	JAN 31,84	0.002	< 0.001	0.010	0.034	0.013	< 0.002	0.032
MAR 27,84	FEB 28,84	0.008	< 0.001	0.011	0.150	0.010	< 0.002	0.147
APR 24,84	MAR 27,84	0.011	< 0.001	0.014	0.256	0.019	< 0.002	0.231
MAY 22,84	APR 24,84	U 0.029	< 0.001	0.021	U 0.665	0.020	< 0.002	U 0.688
JUN 19,84	MAY 22,84	0.006	< 0.001	0.007	0.091	0.007	< 0.002	0.092
JUL 17,84	JUN 19,84	0.005	< 0.001	0.009	0.083	0.008	< 0.002	0.091
AUG 14,84	JUL 17,84	< 0.001	< 0.001	0.008	0.042	0.016	< 0.002	0.036
SEP 11,84	AUG 14,84	0.004	< 0.001	0.008	0.038	0.007	< 0.002	0.054
OCT 9,84	SEP 11,84	0.003	< 0.001	0.009	0.031	0.005	< 0.002	0.035
NOV 6,84	OCT 9,84	0.002	0.000	0.020	0.032	0.005	< 0.000	0.034
DEC 4,84	NOV 6,84	0.002	0.000	0.005	0.024	0.008	< 0.000	0.026
JAN 2,85	DEC 4,84	0.003	0.001	0.027	0.050	0.010	< 0.000	0.044

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MERLIN/CUMULATIVE PRECIP. #02 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.003	0.0008	0.0525
FEB 28,84	JAN 31,84	< 0.002	0.0001	0.0380
MAR 27,84	FEB 28,84	< 0.002	0.0001	0.0209
APR 24,84	MAR 27,84	0.002	< 0.0001	0.0575
MAY 22,84	APR 24,84	0.002	0.0001	U 0.0014
JUN 19,84	MAY 22,84	0.003	0.0001	0.0316
JUL 17,84	JUN 19,84	0.002	0.0001	0.0603
AUG 14,84	JUL 17,84	0.002	0.0001	0.1122
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0891
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0776
NOV 6,84	OCT 9,84	0.001	0.0001	0.0977
DEC 4,84	NOV 6,84	0.001	0.0001	0.0617
JAN 2,85	DEC 4,84	0.003	0.0007	0.0288

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PALMERSTON/CUMULATIVE PRECIP. #08 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 4,84	1300	1300	2	45.2	9	19610	2	1	23		
FEB 28,84	JAN 31,84	1300	1300	3	55.0	0	19623	2	1	U 0	GE	
MAR 27,84	FEB 28,84	1300	1300	3	72.6	9	19635	2	1	46	C	
APR 24,84	MAR 27,84	1300	1300	1	52.7	9	19648	2	1	27		N
MAY 22,84	APR 24,84	1300	1200	1	27.0	0	19659	2	1	80	CD	
JUN 19,84	MAY 22,84	1200	1300	1	150.0	0	19670	2	1	70	ACD	
JUL 17,84	JUN 19,84	1300	1300	1	72.0	0	19680	2	1	67		
AUG 14,84	JUL 17,84	1300	1300	1	18.8	9	19690	2	1	41		
SEP 11,84	AUG 14,84	1300	1300	1	110.0	0	19696	2	1	80		
OCT 9,84	SEP 11,84	1300	1300	1	40.0	0	19710	2	1	88		
NOV 6,84	OCT 9,84	1300	1300	3	75.0	0	19718	2	1	84		
DEC 3,84	NOV 6,84	1300	1300	3	83.0	0	19749	2	1	73		
DEC 31,84	DEC 3,84	1300	1300	3	88.0	0	19750	2	1	79		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 4,84	347.0	40.7	4.22	0.0996	2.75	1.13	0.38
FEB 28,84	JAN 31,84	0.0	*****	*****	******	*****	*****	*****
MAR 27,84	FEB 28,84	1098.0	22.1	U 6.31	0.0222	4.20	0.65	1.55
APR 24,84	MAR 27,84	474.0	23.0	4.71	0.0502	2.95	0.69	0.71
MAY 22,84	APR 24,84	710.8	39.5	U 7.32	0.0218	7.20	1.15	U 2.80
JUN 19,84	MAY 22,84	3412.0	22.0	4.44	0.0602	2.90	0.35	0.28
JUL 17,84	JUN 19,84	1581.0	52.0	4.05	0.1102	6.50	0.80	0.67
AUG 14,84	JUL 17,84	251.0	59.5	4.18	0.1064	8.90	1.04	1.80
SEP 11,84	AUG 14,84	2886.0	38.0	4.19	0.0884	4.20	0.52	0.28
OCT 9,84	SEP 11,84	1144.0	38.7	4.25	0.0896	4.55	0.60	0.29
NOV 6,84	OCT 9,84	2054.0	36.5	4.20	0.0932	3.55	0.46	0.19
DEC 3,84	NOV 6,84	1970.0	26.4	4.38	******	2.40	0.51	0.13
DEC 31,84	DEC 3,84	2283.0	19.4	4.55	******	1.95	0.33	0.14

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PALMERSTON/CUMULATIVE PRECIP. #08 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 4,84	0.49	0.89	0.090	<W 0.005	0.325	*****	0.018
FEB 28,84	JAN 31,84	*****	*****	*****	*****	*****	*****	*****
MAR 27,84	FEB 28,84	0.28	0.55	0.490	0.050	0.155	0.294	D 0.056
APR 24,84	MAR 27,84	0.25	0.57	0.210	0.030	0.085	0.595	0.043
MAY 22,84	APR 24,84	0.38	1.90	U 0.850	0.120	0.140	1.450	0.052
JUN 19,84	MAY 22,84	0.10	0.54	0.065	0.030	0.030	0.390	0.008
JUL 17,84	JUN 19,84	0.17	1.09	0.205	0.040	<T 0.010	0.950	0.005
AUG 14,84	JUL 17,84	0.24	*****	0.420	0.140	0.085	1.000	*****
SEP 11,84	AUG 14,84	0.10	0.59	0.060	0.030	0.020	0.575	<T 0.004
OCT 9,84	SEP 11,84	0.14	0.86	0.065	0.025	0.025	0.790	0.005
NOV 6,84	OCT 9,84	0.18	0.42	0.040	0.030	0.045	0.400	<W 0.001
DEC 3,84	NOV 6,84	0.15	0.56	0.030	0.040	0.055	0.495	0.008
DEC 31,84	DEC 3,84	0.14	0.40	0.035	<T 0.015	0.075	0.340	0.006

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 4,84	0.003	< 0.001	0.033	0.057	0.016	< 0.002	0.085
FEB 28,84	JAN 31,84	*****	*****	*****	*****	*****	*****	*****
MAR 27,84	FEB 28,84	U 0.024	< 0.001	0.009	0.259	0.005	< 0.002	G 0.288
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	U 0.030	< 0.001	0.022	U 0.790	G 0.022	< 0.002	U 0.762
JUN 19,84	MAY 22,84	0.005	< 0.001	0.002	0.056	0.004	< 0.002	0.054
JUL 17,84	JUN 19,84	0.004	< 0.001	0.009	0.038	0.004	< 0.002	0.044
AUG 14,84	JUL 17,84	0.009	< 0.001	0.020	0.086	G 0.032	< 0.002	0.080
SEP 11,84	AUG 14,84	0.003	< 0.001	0.004	0.040	0.005	< 0.002	0.039
OCT 9,84	SEP 11,84	0.002	< 0.001	0.005	0.020	0.012	< 0.002	0.034
NOV 6,84	OCT 9,84	0.002	0.001	0.006	0.020	0.005	< 0.000	0.019
DEC 3,84	NOV 6,84	0.002	< 0.000	0.005	0.013	0.006	< 0.000	0.019
DEC 31,84	DEC 3,84	0.002	< 0.000	0.004	0.033	0.006	< 0.000	0.038

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PALMERSTON/CUMULATIVE PRECIP. 808

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 4,84	0.003	0.0002	0.0603
FEB 28,84	JAN 31,84	*****	******	******
MAR 27,84	FEB 28,84	< 0.002	0.0001	U 0.0005
APR 24,84	MAR 27,84	*****	******	0.0195
MAY 22,84	APR 24,84	0.004	0.0002	U 0.0000
JUN 19,84	MAY 22,84	0.001	0.0001	0.0363
JUL 17,84	JUN 19,84	< 0.002	0.0001	0.0891
AUG 14,84	JUL 17,84	0.004	0.0003	0.0661
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0646
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0562
NOV 6,84	OCT 9,84	0.001	0.0001	0.0631
DEC 3,84	NOV 6,84	< 0.000	0.0001	0.0417
DEC 31,84	DEC 3,84	0.000	0.0001	0.0282

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PORT STANLEY/CUMULATIVE PRECIP. #03 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	1330	930	3	30.0	0	19603	2	1	U 82	CFJI	H
FEB 28,84	JAN 31,84	930	930	3	57.0	0	19618	2	1	U 75	FCIJ	
MAR 27,84	FEB 28,84	930	900	3	37.0	0	19630	2	1	U 96	FC	
APR 24,84	MAR 27,84	900	900	3	72.0	0	19643	2	1	75	CAD	
MAY 22,84	APR 24,84	900	900	1	63.0	0	19654	2	1	U 62	CDFI	
JUN 19,84	MAY 22,84	900	900	1	178.0	0	19665	2	1	U 69	IFCD	
JUL 17,84	JUN 19,84	900	830	1	78.0	0	19675	2	1	81	C	
AUG 14,84	JUL 17,84	830	900	1	64.0	9	19685	2	1	82	AD	
SEP 11,84	AUG 14,84	900	900	1	94.0	0	19699	2	1	90		
OCT 9,84	SEP 11,84	900	930	1	66.0	0	19701	2	1	89		
NOV 6,84	OCT 9,84	930	1400	3	64.0	0	19716	2	1	86		
DEC 4,84	NOV 6,84	1400	900	3	57.6	9	19728	2	1	73		N
JAN 2,85	DEC 4,84	900	1430	3	81.0	0	19742	2	1	87		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	799.0	25.5	U 5.20	0.0492	4.45	0.70	U 2.30
FEB 28,84	JAN 31,84	1393.0	29.6	4.27	0.0812	2.85	0.54	0.39
MAR 27,84	FEB 28,84	1157.0	33.7	U 6.06	0.0296	6.45	1.18	U 3.35
APR 24,84	MAR 27,84	1761.0	44.0	4.12	0.1056	4.15	1.00	0.54
MAY 22,84	APR 24,84	1283.0	26.8	U 5.18	0.0286	4.95	0.78	U 1.54
JUN 19,84	MAY 22,84	4002.0	57.2	3.95	0.1452	6.10	0.66	0.29
JUL 17,84	JUN 19,84	2057.0	42.9	4.08	0.1006	4.45	0.56	0.28
AUG 14,84	JUL 17,84	1705.0	56.0	4.12	0.1116	5.70	0.80	0.53
SEP 11,84	AUG 14,84	2767.0	49.2	4.04	0.1192	5.10	0.57	0.26
OCT 9,84	SEP 11,84	1913.0	41.0	4.11	0.1038	4.20	0.55	0.26
NOV 6,84	OCT 9,84	1800.0	38.4	4.16	0.0978	3.55	0.46	0.10
DEC 4,84	NOV 6,84	1375.0	43.6	4.08	0.1074	3.55	0.77	0.29
JAN 2,85	DEC 4,84	2310.0	27.9	4.30	******	2.25	0.41	0.09

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PORT STANLEY/CUMULATIVE PRECIP. #03 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	U 1.13	1.20	0.475	<T 0.005	U 0.710	U 0.002	U 0.340
FEB 28,84	JAN 31,84	0.27	0.30	0.070	<T 0.010	0.145	0.212	0.010
MAR 27,84	FEB 28,84	0.51	0.30	U 0.700	0.060	0.245	0.086	0.028
APR 24,84	MAR 27,84	0.30	0.74	0.110	0.070	0.095	0.655	0.035
MAY 22,84	APR 24,84	0.26	0.85	U 0.310	0.100	0.090	0.710	0.018
JUN 19,84	MAY 22,84	0.17	0.67	0.050	0.070	0.035	0.525	0.010
JUL 17,84	JUN 19,84	0.12	0.64	0.055	0.045	<T 0.010	0.535	0.006
AUG 14,84	JUL 17,84	0.15	0.85	0.095	0.050	0.030	0.850	0.045
SEP 11,84	AUG 14,84	0.13	0.58	0.045	0.030	0.040	0.530	<T 0.003
OCT 9,84	SEP 11,84	0.17	0.53	0.040	0.040	0.090	0.465	0.006
NOV 6,84	OCT 9,84	0.16	0.35	0.010	0.080	0.125	0.325	<W 0.001
DEC 4,84	NOV 6,84	0.35	0.51	0.045	0.075	0.135	0.445	0.010
JAN 2,85	DEC 4,84	0.19	0.28	<T 0.010	0.030	0.080	0.230	0.005

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.008	0.002	0.051	0.170	0.020	< 0.002	U 0.176
FEB 28,84	JAN 31,84	0.002	< 0.001	0.008	0.028	0.006	< 0.002	0.028
MAR 27,84	FEB 28,84	0.003	< 0.001	0.014	U 0.248	0.006	< 0.002	U 0.264
APR 24,84	MAR 27,84	0.004	< 0.001	0.008	0.048	0.011	< 0.002	0.046
MAY 22,84	APR 24,84	U 0.019	< 0.001	0.010	U 0.241	0.009	< 0.002	U 0.258
JUN 19,84	MAY 22,84	0.006	< 0.001	0.004	0.052	0.005	< 0.002	0.055
JUL 17,84	JUN 19,84	0.003	< 0.001	0.006	0.025	0.001	< 0.002	0.045
AUG 14,84	JUL 17,84	0.003	< 0.001	0.008	0.037	0.011	< 0.002	0.036
SEP 11,84	AUG 14,84	0.005	< 0.001	0.005	0.030	0.008	< 0.002	0.050
OCT 9,84	SEP 11,84	0.003	< 0.001	0.006	0.016	0.011	< 0.002	0.029
NOV 6,84	OCT 9,84	0.002	0.000	0.006	0.018	0.005	< 0.000	0.019
DEC 4,84	NOV 6,84	0.004	0.000	0.010	0.025	0.007	0.001	0.032
JAN 2,85	DEC 4,84	0.002	0.000	0.003	0.018	0.005	< 0.000	0.017

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PORT STANLEY/CUMULATIVE PRECIP. #03

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	0.002	0.0002	U 0.0063
FEB 28,84	JAN 31,84	< 0.002	0.0001	0.0537
MAR 27,84	FEB 28,84	< 0.002	0.0001	U 0.0009
APR 24,84	MAR 27,84	< 0.002	< 0.0001	0.0759
MAY 22,84	APR 24,84	0.001	0.0001	U 0.0066
JUN 19,84	MAY 22,84	< 0.001	0.0001	0.1122
JUL 17,84	JUN 19,84	< 0.001	0.0001	0.0832
AUG 14,84	JUL 17,84	0.002	< 0.0001	0.0759
SEP 11,84	AUG 14,84	< 0.001	0.0002	0.0912
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0776
NOV 6,84	OCT 9,84	< 0.000	0.0001	0.0692
DEC 4,84	NOV 6,84	0.001	0.0003	0.0832
JAN 2,85	DEC 4,84	< 0.000	0.0001	0.0501

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SHALLOW LAKE/CUMULATIVE PRECIP. #09 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES		SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	830	840	3	46.0	0	19609	2	1		56		
FEB 28,84	JAN 31,84	840	830	3	48.0	0	19622	2	1		77		
MAR 27,84	FEB 28,84	830	830	3	67.0	0	19634	2	1		76	D	
APR 25,84	MAR 27,84	830	1740	1	73.0	0	19647	2	1		79	ACD	
MAY 22,84	APR 25,84	1740	715	1	23.8	9	19658	2	1		72	CD	H
JUN 19,84	MAY 22,84	715	830	1	91.0	0	19669	2	1	U	81	FCD	
JUL 17,84	JUN 19,84	830	1700	1	67.0	0	19679	2	1		51	CD	
AUG 14,84	JUL 17,84	1700	830	1	26.0	9	19689	2	1		98		NC
SEP 11,84	AUG 14,84	830	845	1	140.0	0	19697	2	1		53		
OCT 9,84	SEP 11,84	845	800	1	85.0	0	19698	2	1		140		N
NOV 6,84	OCT 9,84	800	830	3	70.0	0	19720	2	1	U	72	F	
DEC 5,84	NOV 6,84	830	830	3	70.0	0	19732	2	1		67		
JAN 2,85	DEC 5,84	830	730	2	108.0	0	19761	2	1		80		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM		PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	839.0	34.8		4.22	0.0950	1.85	0.91	0.14
FEB 28,84	JAN 31,84	1209.0	35.8		4.15	0.1030	2.45	0.81	0.13
MAR 27,84	FEB 28,84	1664.0	44.5		4.13	0.1104	3.85	0.74	0.37
APR 25,84	MAR 27,84	1887.0	20.1		4.44	0.0646	1.95	0.29	0.09
MAY 22,84	APR 25,84	563.0	27.4	U	5.90	0.0264	5.65	0.83	1.61
JUN 19,84	MAY 22,84	2414.0	28.0		4.32	0.0666	3.25	0.44	0.28
JUL 17,84	JUN 19,84	1119.0	40.5		4.16	0.0920	4.75	0.62	0.50
AUG 14,84	JUL 17,84	830.0	20.9		4.55	0.0598	4.25	0.59	0.87
SEP 11,84	AUG 14,84	2412.0	36.0		4.20	0.0850	3.70	0.51	0.25
OCT 9,84	SEP 11,84	3880.0	36.9		4.20	0.0900	3.80	0.43	0.21
NOV 6,84	OCT 9,84	1654.0	43.3		4.13	0.1054	3.90	0.63	0.20
DEC 5,84	NOV 6,84	1535.0	26.1		4.35	0.0662	2.15	0.52	0.19
JAN 2,85	DEC 5,84	2840.0	21.2		4.51	******	1.85	0.45	0.10

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SHALLOW LAKE/CUMULATIVE PRECIP. 809 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.28	0.48	0.025	<T 0.005	0.115	*****	0.015
FEB 28,84	JAN 31,84	0.14	0.38	0.020	<T 0.015	0.065	0.328	0.008
MAR 27,84	FEB 28,84	0.18	0.38	0.100	<T 0.010	0.090	0.324	<T 0.004
APR 25,84	MAR 27,84	0.10	0.24	0.015	0.020	<T 0.010	0.210	0.013
MAY 22,84	APR 25,84	0.25	1.73	0.400	0.115	0.105	1.100	U 0.095
JUN 19,84	MAY 22,84	0.14	0.73	0.070	0.025	0.065	0.460	0.010
JUL 17,84	JUN 19,84	0.13	0.77	0.115	0.040	<T 0.010	0.630	0.007
AUG 14,84	JUL 17,84	0.15	0.59	0.245	0.035	0.085	0.555	0.005
SEP 11,84	AUG 14,84	0.12	0.45	0.045	0.025	0.030	0.430	<T 0.002
OCT 9,84	SEP 11,84	0.07	0.47	0.040	0.025	<T 0.015	0.420	0.005
NOV 6,84	OCT 9,84	0.18	0.48	0.045	0.030	0.050	0.455	<W 0.001
DEC 5,84	NOV 6,84	0.14	0.44	0.025	0.035	0.045	0.400	0.005
JAN 2,85	DEC 5,84	0.14	0.45	0.020	0.030	0.060	0.400	0.007

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.002	< 0.001	0.008	0.020	0.009	< 0.002	0.032
FEB 28,84	JAN 31,84	0.001	< 0.001	0.007	0.015	0.007	< 0.002	0.018
MAR 27,84	FEB 28,84	0.005	< 0.001	0.007	0.034	0.008	< 0.002	0.046
APR 25,84	MAR 27,84	0.001	< 0.001	0.003	0.043	0.009	< 0.002	0.007
MAY 22,84	APR 25,84	U 0.028	< 0.001	U 0.030	U 0.496	0.021	< 0.002	U 0.490
JUN 19,84	MAY 22,84	0.003	< 0.001	0.003	0.043	0.004	< 0.002	0.050
JUL 17,84	JUN 19,84	0.004	< 0.001	0.007	0.032	0.002	< 0.002	0.066
AUG 14,84	JUL 17,84	0.005	< 0.001	0.005	0.057	0.020	< 0.002	0.048
SEP 11,84	AUG 14,84	0.003	< 0.001	0.004	0.015	0.004	< 0.002	0.032
OCT 9,84	SEP 11,84	0.003	< 0.001	0.005	0.020	0.009	< 0.002	0.031
NOV 6,84	OCT 9,84	0.002	0.000	0.006	0.025	0.008	0.001	0.029
DEC 5,84	NOV 6,84	0.002	< 0.000	0.005	0.014	0.005	< 0.000	0.023
JAN 2,85	DEC 5,84	0.002	< 0.000	0.003	0.025	0.006	0.000	0.028

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SHALLOW LAKE/CUMULATIVE PRECIP. #09

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.002	0.0001	0.0603
FEB 28,84	JAN 31,84	< 0.002	< 0.0001	0.0708
MAR 27,84	FEB 28,84	< 0.002	0.0001	0.0741
APR 25,84	MAR 27,84	< 0.002	< 0.0001	0.0363
MAY 22,84	APR 25,84	0.005	0.0001	U 0.0013
JUN 19,84	MAY 22,84	< 0.001	0.0001	0.0479
JUL 17,84	JUN 19,84	< 0.002	0.0001	0.0692
AUG 14,84	JUL 17,84	< 0.002	0.0005	0.0282
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0631
OCT 9,84	SEP 11,84	< 0.001	0.0001	0.0631
NOV 6,84	OCT 9,84	< 0.000	0.0002	0.0741
DEC 5,84	NOV 6,84	0.001	0.0001	0.0447
JAN 2,85	DEC 5,84	< 0.000	0.0001	0.0309

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WATERLOO/CUMULATIVE PRECIP. #07 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	830	840	2	31.0	0	19611	2	1	58		
FEB 28,84	JAN 31,84	840	820	3	60.0	0	19624	2	1	67		
MAR 26,84	FEB 28,84	820	825	3	66.0	0	19636	2	1	76	D	
APR 24,84	MAR 27,84	825	820	3	41.0	0	19649	2	1	80	ABCD	HCM
MAY 22,84	APR 24,84	820	815	1	42.0	0	19660	2	1	78	ABC	
JUN 19,84	MAY 22,84	815	820	1	129.0	0	19671	2	1	65	ACD	
JUL 17,84	JUN 19,84	820	830	1	41.0	0	19681	2	1	80		
AUG 14,84	JUL 17,84	830	820	1	88.0	0	19691	2	1	85		
SEP 11,84	AUG 14,84	820	930	1	120.0	0	19695	2	1	U 32	CG	N
OCT 9,84	SEP 11,84	930	830	3	69.0	0	19721	2	1	84		
NOV 6,84	OCT 9,84	830	820	3	53.0	0	19722	2	1	87		
DEC 4,84	NOV 6,84	820	900	3	65.0	0	19734	2	1	93		
JAN 1,85	DEC 4,84	900	930	3	84.0	0	19752	2	1	87		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	589.0	35.2	4.23	0.0950	2.20	0.93	0.22
FEB 28,84	JAN 31,84	1317.0	28.0	4.28	0.0816	2.40	0.50	0.17
MAR 26,84	FEB 28,84	1632.0	36.6	4.23	0.0898	3.65	0.52	0.45
APR 24,84	MAR 27,84	1071.0	G 79.1	U 7.70	0.0488	4.50	0.36	U 6.00
MAY 22,84	APR 24,84	1066.0	33.5	U 7.20	0.0248	5.45	0.73	U 1.53
JUN 19,84	MAY 22,84	2749.0	27.6	4.39	0.0684	3.95	0.52	0.51
JUL 17,84	JUN 19,84	1070.0	45.0	4.14	0.0972	5.75	0.68	0.62
AUG 14,84	JUL 17,84	2430.0	47.0	4.10	0.1126	4.30	0.66	0.38
SEP 11,84	AUG 14,84	1256.0	41.4	4.16	0.0980	4.55	0.51	0.25
OCT 9,84	SEP 11,84	1902.0	36.7	4.25	0.0852	3.85	0.58	0.33
NOV 6,84	OCT 9,84	1503.0	40.6	4.19	0.1004	3.90	0.57	0.24
DEC 4,84	NOV 6,84	1975.0	32.0	4.20	0.0832	2.85	0.59	0.20
JAN 1,85	DEC 4,84	2400.0	21.0	4.51	******	2.20	0.39	0.27

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WATERLOO/CUMULATIVE PRECIP. #07 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.45	0.71	0.030	0.030	0.195	*****	0.024
FEB 28,84	JAN 31,84	0.19	0.27	0.025	<T 0.010	0.075	0.240	0.009
MAR 26,84	FEB 28,84	0.26	0.34	0.115	<T 0.010	0.125	0.274	0.005
APR 24,84	MAR 27,84	0.51	0.28	U 0.950	U 0.750	0.230	U 5.000	0.026
MAY 22,84	APR 24,84	0.25	U 2.40	U 0.420	0.165	0.075	U 2.000	U 0.152
JUN 19,84	MAY 22,84	0.11	0.91	0.125	0.030	0.040	0.630	0.023
JUL 17,84	JUN 19,84	0.17	1.13	0.125	0.110	0.065	0.905	0.015
AUG 14,84	JUL 17,84	0.14	0.52	0.095	0.065	0.015	0.370	0.012
SEP 11,84	AUG 14,84	0.11	0.64	0.045	0.035	<T 0.015	0.585	<T 0.003
OCT 9,84	SEP 11,84	0.14	0.60	0.040	0.015	0.050	0.555	<T 0.002
NOV 6,84	OCT 9,84	0.19	0.49	0.050	0.015	0.045	0.450	<M 0.001
DEC 4,84	NOV 6,84	0.24	0.52	0.040	0.015	0.085	0.470	0.008
JAN 1,85	DEC 4,84	0.21	0.37	0.075	0.025	0.105	0.320	0.006

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.002	< 0.001	0.013	0.049	0.014	< 0.002	0.055
FEB 28,84	JAN 31,84	0.002	< 0.001	0.008	0.023	0.015	< 0.002	0.018
MAR 26,84	FEB 28,84	0.005	< 0.001	0.007	0.050	0.006	< 0.002	0.071
APR 24,84	MAR 27,84	0.017	< 0.001	0.025	0.187	0.012	< 0.002	0.139
MAY 22,84	APR 24,84	U 0.032	< 0.001	0.013	U 0.461	0.011	< 0.002	U 0.455
JUN 19,84	MAY 22,84	0.005	< 0.001	0.004	0.128	0.007	< 0.002	0.163
JUL 17,84	JUN 19,84	0.004	< 0.001	0.011	0.044	0.002	< 0.002	0.070
AUG 14,84	JUL 17,84	0.004	< 0.001	0.007	0.043	0.010	< 0.002	0.029
SEP 11,84	AUG 14,84	0.004	< 0.001	0.007	G 0.210	0.016	< 0.002	0.090
OCT 9,84	SEP 11,84	0.003	0.000	0.007	0.027	0.005	< 0.000	0.021
NOV 6,84	OCT 9,84	0.003	0.000	0.007	0.031	0.007	0.000	0.018
DEC 4,84	NOV 6,84	0.003	< 0.000	0.007	0.022	0.008	0.000	0.028
JAN 1,85	DEC 4,84	0.002	0.000	0.006	0.047	0.017	< 0.000	0.029

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WATERLOO/CUMULATIVE PRECIP. 807 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	0.004	0.0002	0.0589
FEB 28,84	JAN 31,84	< 0.002	< 0.0001	0.0525
MAR 26,84	FEB 28,84	< 0.002	0.0001	0.0589
APR 24,84	MAR 27,84	0.005	< 0.0001	U 0.0000
MAY 22,84	APR 24,84	0.004	0.0002	U 0.0001
JUN 19,84	MAY 22,84	0.001	0.0001	0.0407
JUL 17,84	JUN 19,84	0.001	0.0001	0.0724
AUG 14,84	JUL 17,84	< 0.001	< 0.0001	0.0794
SEP 11,84	AUG 14,84	< 0.002	0.0001	0.0692
OCT 9,84	SEP 11,84	0.001	0.0001	0.0562
NOV 6,84	OCT 9,84	0.001	0.0001	0.0646
DEC 4,84	NOV 6,84	0.001	0.0002	0.0631
JAN 1,85	DEC 4,84	0.001	0.0001	0.0309

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILKESPORT/CUMULATIVE PRECIP. #04 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	1300	1300	2	23.8	9	19606	2	1	24	FI	
MAR 1,84	JAN 31,84	1300	930	3	*****	*	19620	2	1	***	FC	
MAR 27,84	MAR 1,84	930	1230	1	100.0	0	19632	2	1	U 47	FJD	
APR 24,84	MAR 27,84	1230	930	1	54.0	0	19645	2	1	86	CD	
MAY 22,84	APR 24,84	930	1130	1	27.0	0	19656	2	1	U 76	ACDG	
JUN 19,84	MAY 22,84	1130	1330	1	74.0	0	19667	2	1	U 0	EJABCD	
JUL 17,84	JUN 19,84	1330	1200	1	45.0	0	19677	2	1	U 81	FIACD	
AUG 14,84	JUL 17,84	1200	1230	1	20.0	0	19687	2	1	86		
SEP 11,84	AUG 14,84	1230	1400	1	79.0	0	19711	2	1	U 5	G	N
OCT 9,84	SEP 11,84	1400	1030	1	79.0	0	19705	2	1	U 80	FAC	
NOV 6,84	OCT 9,84	1030	1400	3	40.0	0	19715	2	1	U 45	FI	
DEC 6,84	NOV 6,84	1400	1300	3	38.0	0	19731	2	1	U 20	ACFI	
JAN 2,85	DEC 6,84	1300	1430	3	93.0	0	19747	2	1	89		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	190.0	G 62.5	4.10	D 0.1358	5.05	G 1.78	0.98
MAR 1,84	JAN 31,84	659.0	28.3	U 4.44	0.0690	3.65	0.48	0.78
MAR 27,84	MAR 1,84	1527.0	35.8	4.31	0.0838	4.20	0.52	0.84
APR 24,84	MAR 27,84	1521.0	53.0	4.00	0.1334	4.65	1.14	0.70
MAY 22,84	APR 24,84	671.0	43.0	U 7.45	0.0192	8.15	1.22	U 4.00
JUN 19,84	MAY 22,84	0.0	*****	*****	******	*****	*****	*****
JUL 17,84	JUN 19,84	1184.0	44.5	4.27	0.0782	6.85	0.88	1.60
AUG 14,84	JUL 17,84	562.0	> 100.0	3.68	G 0.2540	G 11.80	G 1.63	1.18
SEP 11,84	AUG 14,84	141.0	38.6	4.11	0.1144	4.55	0.45	0.26
OCT 9,84	SEP 11,84	2069.0	19.6	B 4.76	0.0494	3.35	0.30	0.23
NOV 6,84	OCT 9,84	591.0	81.8	3.81	G 0.1988	7.30	D 1.13	0.36
DEC 6,84	NOV 6,84	250.0	32.7	4.19	0.0862	2.20	0.63	D 0.45
JAN 2,85	DEC 6,84	2693.0	D 27.6	4.39	******	2.60	0.43	0.36

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NILKESPORT/CUMULATIVE PRECIP. 804 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	U 2.36	1.51	0.185	0.030	U 1.380	0.840	D 0.057
MAR 1,84	JAN 31,84	0.73	U 2.32	0.115	U 0.390	U 0.470	0.128	0.013
MAR 27,84	MAR 1,84	0.25	0.29	0.085	<T 0.005	0.130	0.258	<T 0.001
APR 24,84	MAR 27,84	0.43	<W 0.01	0.090	0.030	0.065	0.560	<W 0.001
MAY 22,84	APR 24,84	0.51	1.66	U 0.600	0.110	0.195	1.300	0.030
JUN 19,84	MAY 22,84	*****	*****	*****	*****	*****	*****	*****
JUL 17,84	JUN 19,84	0.24	1.09	0.215	0.080	0.065	0.910	0.009
AUG 14,84	JUL 17,84	0.38	1.15	0.230	0.090	0.080	1.050	0.018
SEP 11,84	AUG 14,84	0.14	0.59	0.045	0.025	<T 0.015	0.535	0.005
OCT 9,84	SEP 11,84	0.22	0.96	0.050	D 0.180	0.090	0.795	B 0.080
NOV 6,84	OCT 9,84	D 0.49	D 0.75	0.055	0.075	D 0.145	D 0.665	0.005
DEC 6,84	NOV 6,84	0.34	0.37	D 0.060	D 0.125	0.175	0.105	D 0.040
JAN 2,85	DEC 6,84	0.61	0.65	0.060	0.110	0.180	0.345	0.015

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	*****	*****	*****	*****	*****	*****	*****
MAR 1,84	JAN 31,84	0.003	0.003	0.033	0.063	0.023	< 0.002	0.043
MAR 27,84	MAR 1,84	0.003	< 0.001	0.008	0.043	0.007	< 0.002	0.055
APR 24,84	MAR 27,84	0.004	< 0.001	0.011	0.058	0.012	< 0.002	0.061
MAY 22,84	APR 24,84	U 0.023	< 0.001	0.019	U 0.520	0.015	< 0.002	U 0.490
JUN 19,84	MAY 22,84	*****	*****	*****	*****	*****	*****	*****
JUL 17,84	JUN 19,84	0.007	< 0.001	0.010	0.097	0.005	< 0.002	0.100
AUG 14,84	JUL 17,84	0.007	< 0.001	0.020	0.106	G 0.023	< 0.002	0.103
SEP 11,84	AUG 14,84	0.004	< 0.001	D 0.026	U 0.411	B 0.028	< 0.002	U 0.334
OCT 9,84	SEP 11,84	0.002	< 0.001	0.018	0.014	0.006	< 0.002	0.029
NOV 6,84	OCT 9,84	0.004	0.001	0.016	0.037	D 0.013	0.001	0.087
DEC 6,84	NOV 6,84	0.003	0.001	L 0.015	L 0.027	L 0.007	0.000	L 0.017
JAN 2,85	DEC 6,84	0.003	0.001	0.005	0.017	0.005	< 0.000	0.029

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILKESPORT/CUMULATIVE PRECIP. #04

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	*****	******	0.0794
MAR 1,84	JAN 31,84	0.008	0.0005	U 0.0363
MAR 27,84	MAR 1,84	0.001	0.0003	0.0490
APR 24,84	MAR 27,84	< 0.002	< 0.0001	0.1000
MAY 22,84	APR 24,84	0.003	0.0001	U 0.0000
JUN 19,84	MAY 22,84	*****	******	******
JUL 17,84	JUN 19,84	0.001	0.0002	0.0537
AUG 14,84	JUL 17,84	0.006	0.0003	0.2089
SEP 11,84	AUG 14,84	< 0.008	0.0001	0.0776
OCT 9,84	SEP 11,84	< 0.001	0.0001	B 0.0174
NOV 6,84	OCT 9,84	0.001	0.0002	0.1549
DEC 6,84	NOV 6,84	L 0.004	0.0002	0.0646
JAN 2,85	DEC 6,84	0.001	0.0001	0.0407

PART IV

CENTRAL REGION

CUMULATIVE PRECIPITATION CHENISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CAMPBELLFORD/CUMULATIVE PRECIP. #13 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	800	830	2	27.5	0	24318	2	1	57		
FEB 28,84	JAN 31,84	830	900	2	76.0	0	24325	2	1	72		
MAR 27,84	FEB 28,84	900	800	3	48.7	0	24329	2	1	62		
APR 24,84	MAR 27,84	830	800	1	122.8	9	24336	2	1	0	EF	
MAY 22,84	APR 24,84	800	800	1	63.0	0	24343	2	1	U 79	DAF	
JUN 19,84	MAY 22,84	800	830	1	37.0	0	24347	2	1	54		
JUL 17,84	JUN 19,84	830	800	1	51.0	0	24357	2	1	80	D	
AUG 14,84	JUL 17,84	800	800	1	139.0	9	24375	2	1	23		N
SEP 11,84	AUG 14,84	800	1000	1	138.0	0	24378	2	1	61	AD	
OCT 9,84	SEP 11,84	1000	800	1	33.1	9	24381	2	1	82	D	N
NOV 6,84	OCT 9,84	800	830	1	37.0	0	24387	2	1	U 69	ACFB	
DEC 4,84	NOV 6,84	830	830	1	52.0	0	24398	2	1	U 60	F	
JAN 2,85	DEC 4,84	830	830	3	72.0	0	24404	2	1	61	BCD	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	515.0	42.3	4.09	0.1104	2.25	0.99	0.28
FEB 28,84	JAN 31,84	1788.0	19.5	4.48	0.0564	1.40	0.37	0.10
MAR 27,84	FEB 28,84	985.0	33.6	4.18	0.1076	3.40	0.71	0.38
APR 24,84	MAR 27,84	0.0	*****	*****	******	*****	*****	*****
MAY 22,84	APR 24,84	1624.0	25.9	4.36	0.0684	3.45	0.51	0.55
JUN 19,84	MAY 22,84	654.0	45.1	4.11	0.1092	5.60	0.68	0.78
JUL 17,84	JUN 19,84	1333.0	38.3	4.16	0.0798	5.55	0.72	0.66
AUG 14,84	JUL 17,84	1038.0	44.8	4.11	0.0984	4.30	0.77	0.61
SEP 11,84	AUG 14,84	2754.0	37.5	4.18	0.0938	3.75	0.52	0.25
OCT 9,84	SEP 11,84	890.0	50.8	3.98	0.1174	5.10	0.82	0.66
NOV 6,84	OCT 9,84	840.0	19.6	U 6.28	0.0246	3.85	0.56	1.04
DEC 4,84	NOV 6,84	1024.0	42.2	4.20	0.1056	3.95	0.95	0.72
JAN 2,85	DEC 4,84	1441.0	37.8	4.16	******	2.95	0.79	0.32

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CAMPBELLFORD/CUMULATIVE PRECIP. #13 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.45	0.46	0.035	<T 0.015	0.215	0.390	0.015
FEB 28,84	JAN 31,84	0.20	0.20	0.020	<W 0.005	0.095	0.186	0.005
MAR 27,84	FEB 28,84	0.32	0.33	0.060	<T 0.015	0.170	0.274	0.011
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.10	0.69	0.060	0.045	0.065	0.390	0.034
JUN 19,84	MAY 22,84	0.12	0.88	0.105	0.080	0.080	0.605	0.025
JUL 17,84	JUN 19,84	0.16	1.16	0.090	U 0.655	0.035	0.810	0.125
AUG 14,84	JUL 17,84	0.16	0.51	0.130	0.035	0.035	0.420	<T 0.002
SEP 11,84	AUG 14,84	0.10	0.51	0.035	0.050	0.050	0.445	0.006
OCT 9,84	SEP 11,84	0.18	0.57	0.080	0.030	0.075	0.490	<T 0.003
NOV 6,84	OCT 9,84	0.16	U 1.71	0.115	U 0.360	0.070	0.945	U 0.115
DEC 4,84	NOV 6,84	0.27	0.67	0.060	0.050	0.125	0.645	0.010
JAN 2,85	DEC 4,84	0.27	0.47	0.045	0.095	0.130	0.410	0.009

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.003	< 0.001	0.013	0.059	0.014	< 0.002	0.071
FEB 28,84	JAN 31,84	0.001	< 0.001	0.005	0.015	0.006	< 0.002	0.025
MAR 27,84	FEB 28,84	0.002	< 0.001	0.006	0.023	0.009	< 0.002	0.034
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.006	< 0.001	0.005	0.053	0.008	< 0.002	0.076
JUN 19,84	MAY 22,84	0.007	< 0.001	0.009	0.110	0.017	< 0.002	0.120
JUL 17,84	JUN 19,84	0.004	0.001	0.008	0.033	0.012	< 0.002	0.036
AUG 14,84	JUL 17,84	0.005	< 0.001	0.008	0.046	0.009	< 0.002	0.046
SEP 11,84	AUG 14,84	0.002	< 0.001	0.009	0.036	0.007	< 0.002	0.027
OCT 9,84	SEP 11,84	0.005	< 0.001	0.007	0.080	0.006	< 0.002	0.063
NOV 6,84	OCT 9,84	0.008	0.001	0.013	0.050	0.006	0.001	0.059
DEC 4,84	NOV 6,84	0.004	0.001	0.013	0.046	0.015	0.001	0.052
JAN 2,85	DEC 4,84	0.003	0.000	0.010	D 0.030	0.013	0.001	0.028

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CAMPBELLFORD/CUMULATIVE PRECIP. #13 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.003	0.0002	0.0813
FEB 28,84	JAN 31,84	< 0.002	< 0.0001	0.0331
MAR 27,84	FEB 28,84	< 0.002	0.0001	0.0661
APR 24,84	MAR 27,84	*****	******	******
MAY 22,84	APR 24,84	< 0.002	0.0001	0.0437
JUN 19,84	MAY 22,84	< 0.003	0.0001	0.0776
JUL 17,84	JUN 19,84	< 0.002	0.0001	0.0692
AUG 14,84	JUL 17,84	0.002	0.0001	0.0776
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0661
OCT 9,84	SEP 11,84	0.003	0.0001	0.1047
NOV 6,84	OCT 9,84	0.001	0.0001	U 0.0005
DEC 4,84	NOV 6,84	0.003	0.0001	0.0631
JAN 2,85	DEC 4,84	0.002	0.0002	0.0692

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : COLDWATER/CUMULATIVE PRECIP. #12 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES		SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	725	730	2	57.1	9	29288	2	1		35		N
FEB 28,84	JAN 31,84	730	730	3	56.0	0	29296	2	1		61		
MAR 27,84	FEB 28,84	730	730	3	67.0	0	29301	2	1	U	64	G	
APR 24,84	MAR 27,84	730	845	3	53.0	0	29313	2	1	U	78	AFI	
MAY 22,84	APR 24,84	845	730	1	61.8	9	29321	2	1		58	ACFIQ	H
JUN 19,84	MAY 22,84	730	815	1	110.0	0	29330	2	1	U	66	AF	
JUL 17,84	JUN 19,84	815	745	1	95.8	9	29336	2	1		79	FI	
AUG 14,84	JUL 17,84	745	745	1	40.0	0	29349	2	1		82	A	
SEP 11,84	AUG 14,84	745	745	1	132.0	0	29358	2	1	U	73	F	
OCT 9,84	SEP 11,84	745	745	1	58.0	0	29368	2	1	U	75	FIJA	
NOV 6,84	OCT 9,84	745	800	3	65.0	0	29376	2	1		86		
DEC 4,84	NOV 6,84	800	800	3	80.0	0	29384	2	1		75		
DEC 31,84	DEC 4,84	800	1200	3	93.0	0	29396	2	1		82		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM		PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	658.0	28.1		4.27	0.0840	1.20	0.75	0.22
FEB 28,84	JAN 31,84	1122.0	22.0		4.44	0.0602	1.70	0.45	0.16
MAR 27,84	FEB 28,84	1413.0	32.8		4.25	0.0822	3.00	0.61	0.47
APR 24,84	MAR 27,84	1347.0	11.3	U	6.20	0.0310	1.95	0.27	0.28
MAY 22,84	APR 24,84	1170.0	30.5	G	4.77	0.0642	5.90	0.62	1.80
JUN 19,84	MAY 22,84	2360.0	29.0		4.45	0.0630	3.75	0.54	0.50
JUL 17,84	JUN 19,84	2485.0	35.6		4.13	0.0788	3.85	0.52	0.17
AUG 14,84	JUL 17,84	1068.0	38.5		4.19	0.0834	4.30	0.37	0.45
SEP 11,84	AUG 14,84	3162.0	27.0		4.27	D 0.0716	2.70	0.35	0.18
OCT 9,84	SEP 11,84	1423.0	38.8		4.20	D 0.0920	4.00	0.55	0.33
NOV 6,84	OCT 9,84	1834.0	37.1		4.21	0.0942	3.35	0.57	0.34
DEC 4,84	NOV 6,84	1950.0	26.9		4.40	0.0692	2.25	0.53	0.24
DEC 31,84	DEC 4,84	2502.0	20.0		4.50	******	1.65	0.36	0.16

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : COLDWATER/CUMULATIVE PRECIP. #12 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.38	0.48	0.030	0.025	0.235	0.140	0.027
FEB 28,84	JAN 31,84	0.20	0.26	0.025	<T 0.050	0.140	0.220	0.009
MAR 27,84	FEB 28,84	0.25	0.34	0.070	0.030	0.140	0.246	0.015
APR 24,84	MAR 27,84	0.50	G 1.21	0.040	G 0.275	0.115	0.800	U 0.140
MAY 22,84	APR 24,84	0.33	1.07	0.275	0.170	0.160	0.835	0.050
JUN 19,84	MAY 22,84	0.13	0.70	0.100	0.050	0.065	0.595	<T 0.004
JUL 17,84	JUN 19,84	0.16	0.60	0.030	0.025	<T 0.005	0.495	0.012
AUG 14,84	JUL 17,84	0.15	0.67	0.090	0.065	0.060	0.580	<W 0.001
SEP 11,84	AUG 14,84	0.11	0.30	0.025	0.035	0.035	0.255	0.005
OCT 9,84	SEP 11,84	0.13	0.47	0.060	0.055	<T 0.015	0.435	<T 0.003
NOV 6,84	OCT 9,84	0.17	0.37	0.050	<T 0.015	0.040	0.315	<T 0.004
DEC 4,84	NOV 6,84	0.16	0.39	0.020	<W 0.005	0.030	0.360	<T 0.003
DEC 31,84	DEC 4,84	0.18	0.25	<T 0.015	<T 0.015	0.080	0.190	0.013

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.002	< 0.001	0.006	0.044	0.006	< 0.002	0.030
FEB 28,84	JAN 31,84	0.001	< 0.001	0.005	0.021	0.006	< 0.002	0.036
MAR 27,84	FEB 28,84	0.004	< 0.001	0.006	0.044	0.007	< 0.002	0.042
APR 24,84	MAR 27,84	0.002	< 0.001	0.004	0.013	0.003	< 0.002	0.020
MAY 22,84	APR 24,84	U 0.022	< 0.001	D 0.011	0.235	0.010	< 0.002	U 0.292
JUN 19,84	MAY 22,84	0.007	< 0.001	0.006	0.120	0.009	< 0.002	0.126
JUL 17,84	JUN 19,84	0.002	< 0.001	0.003	0.021	0.006	< 0.002	0.025
AUG 14,84	JUL 17,84	0.004	< 0.001	0.004	0.038	0.007	< 0.002	0.025
SEP 11,84	AUG 14,84	0.002	< 0.001	0.004	0.021	0.006	< 0.002	0.034
OCT 9,84	SEP 11,84	0.003	< 0.001	0.007	0.027	0.007	< 0.002	0.035
NOV 6,84	OCT 9,84	0.002	< 0.001	0.005	0.037	0.007	< 0.002	0.039
DEC 4,84	NOV 6,84	0.003	0.000	0.007	0.051	0.009	< 0.000	0.045
DEC 31,84	DEC 4,84	0.002	0.000	0.004	0.023	0.004	< 0.000	0.027

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : COLDWATER/CUMULATIVE PRECIP. 812 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.003	< 0.0001	0.0537
FEB 28,84	JAN 31,84	0.001	0.0001	0.0363
MAR 27,84	FEB 28,84	< 0.002	< 0.0001	0.0562
APR 24,84	MAR 27,84	0.002	< 0.0001	U 0.0006
MAY 22,84	APR 24,84	0.002	0.0001	G 0.0170
JUN 19,84	MAY 22,84	0.003	0.0001	0.0355
JUL 17,84	JUN 19,84	< 0.001	0.0001	0.0741
AUG 14,84	JUL 17,84	0.001	0.0002	0.0646
SEP 11,84	AUG 14,84	< 0.001	< 0.0001	0.0537
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0631
NOV 6,84	OCT 9,84	0.001	0.0001	0.0617
DEC 4,84	NOV 6,84	0.001	0.0001	0.0398
DEC 31,84	DEC 4,84	0.000	0.0000	0.0316

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/CUMULATIVE PRECIP. #20 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	1500	900	2	47.0	0	29280	2	1	70		
FEB 28,84	JAN 31,84	915	855	3	69.0	0	29290	2	1	86	A	
MAR 27,84	FEB 28,84	855	1030	3	62.0	0	29298	2	1	84		
APR 24,84	MAR 27,84	1030	1110	3	50.0	0	29310	2	1	87		
MAY 22,84	APR 24,84	1110	1110	1	54.0	0	29318	2	1	94	C	
JUN 19,84	MAY 22,84	1110	920	1	107.0	0	29327	2	1	92	A	
JUL 17,84	JUN 19,84	920	1100	1	89.0	0	29333	2	1	91		
AUG 14,84	JUL 17,84	1100	900	1	37.0	0	29346	2	1	84		
SEP 11,84	AUG 14,84	900	845	1	86.0	0	29352	2	1	92		
OCT 9,84	SEP 11,84	845	900	1	56.0	0	29363	2	1	88		
NOV 6,84	OCT 9,84	900	900	3	76.0	0	29373	2	1	91	AQ	
DEC 4,84	NOV 6,84	900	930	3	70.0	0	29381	2	1	106	A	
JAN 2,85	DEC 4,84	930	945	3	158.0	0	29391	2	1	73		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	1080.0	36.4	4.11	0.1070	1.60	0.97	0.10
FEB 28,84	JAN 31,84	1949.0	33.0	4.17	0.0958	2.35	0.68	0.07
MAR 27,84	FEB 28,84	1705.0	29.5	4.25	0.0822	2.25	0.50	0.13
APR 24,84	MAR 27,84	1417.0	17.5	4.50	0.0592	1.30	0.26	0.07
MAY 22,84	APR 24,84	1664.0	40.5	4.29	0.0894	5.00	0.78	0.80
JUN 19,84	MAY 22,84	3230.0	27.6	4.38	0.0636	3.45	0.46	0.25
JUL 17,84	JUN 19,84	2640.0	33.3	4.16	0.0970	3.40	0.36	0.15
AUG 14,84	JUL 17,84	1012.0	30.5	4.22	0.0848	3.20	0.29	0.21
SEP 11,84	AUG 14,84	2577.0	26.4	4.36	0.0710	2.60	0.31 D	0.20
OCT 9,84	SEP 11,84	1609.0	40.4	4.14	0.0982	3.60	0.57	0.22
NOV 6,84	OCT 9,84	2257.0	34.9	4.21	0.0894	2.95	0.49	0.17
DEC 4,84	NOV 6,84	2416.0	22.8	4.39	0.0628	1.70	0.40	0.21
JAN 2,85	DEC 4,84	3750.0	17.7	4.52	0.0524	1.30	0.30	<T 0.04

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/CUMULATIVE PRECIP. $20 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.21	0.42	0.020	0.020	0.065	0.340	<T 0.003
FEB 28,84	JAN 31,84	0.17	0.36	<T 0.005	<T 0.015	0.090	0.310	0.008
MAR 27,84	FEB 28,84	0.15	0.21	0.020	<W 0.005	0.035	0.138	0.007
APR 24,84	MAR 27,84	0.05	0.15	0.015	<T 0.015	0.040	0.080	0.013
MAY 22,84	APR 24,84	0.21	0.88	0.145	0.080	0.080	0.620	0.038
JUN 19,84	MAY 22,84	0.12	0.75	0.055	0.060	0.060	0.595	0.016
JUL 17,84	JUN 19,84	0.10	0.38	0.020	<T 0.010	<W 0.005	0.280	<T 0.003
AUG 14,84	JUL 17,84	0.09	0.36	0.040	<T 0.010	0.020	0.255	<T 0.003
SEP 11,84	AUG 14,84	0.08	0.25	0.030	<W 0.005	0.020	0.215	<T 0.003
OCT 9,84	SEP 11,84	0.11	0.39	0.035	0.040	0.020	0.375	<W 0.001
NOV 6,84	OCT 9,84	0.12	0.33	0.030	<T 0.015	0.040	0.285	<T 0.003
DEC 4,84	NOV 6,84	0.13	0.27	0.015	<W 0.005	0.030	0.230	0.007
JAN 2,85	DEC 4,84	0.10	0.18	<T 0.015	0.035	0.030	0.150	<T 0.003

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.002	U 0.026	0.007	0.027	0.008	< 0.002	0.022
FEB 28,84	JAN 31,84	0.001	< 0.001	0.006	0.017	0.006	< 0.002	0.023
MAR 27,84	FEB 28,84	0.001	< 0.001	0.004	0.031	0.005	< 0.002	0.035
APR 24,84	MAR 27,84	< 0.001	< 0.001	< 0.003	0.012	0.002	< 0.002	0.019
MAY 22,84	APR 24,84	G 0.014	< 0.001	0.006	0.151	0.006	< 0.002	0.229
JUN 19,84	MAY 22,84	0.004	< 0.001	0.003	0.044	0.010	< 0.002	0.053
JUL 17,84	JUN 19,84	0.002	< 0.001	0.002	0.019	0.006	< 0.002	0.019
AUG 14,84	JUL 17,84	0.002	< 0.001	0.005	0.026	0.002	< 0.002	0.036
SEP 11,84	AUG 14,84	0.002	< 0.001	0.004	0.023	0.007	< 0.002	0.031
OCT 9,84	SEP 11,84	0.002	< 0.001	0.006	0.019	0.006	< 0.002	0.030
NOV 6,84	OCT 9,84	0.001	< 0.001	0.002	0.007	0.006	< 0.002	0.013
DEC 4,84	NOV 6,84	0.001	0.000	0.003	0.013	0.004	< 0.000	0.013
JAN 2,85	DEC 4,84	< 0.001	0.000	0.002	0.011	0.002	< 0.000	0.011

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/CUMULATIVE PRECIP. #20 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.002	< 0.0001	0.0776
FEB 28,84	JAN 31,84	< 0.002	0.0001	0.0676
MAR 27,84	FEB 28,84	< 0.002	< 0.0001	0.0562
APR 24,84	MAR 27,84	< 0.002	< 0.0001	0.0316
MAY 22,84	APR 24,84	< 0.002	0.0001	0.0513
JUN 19,84	MAY 22,84	0.001	< 0.0001	0.0417
JUL 17,84	JUN 19,84	< 0.001	0.0001	0.0692
AUG 14,84	JUL 17,84	< 0.002	0.0002	0.0603
SEP 11,84	AUG 14,84	< 0.001	< 0.0001	0.0437
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0724
NOV 6,84	OCT 9,84	< 0.001	0.0001	0.0617
DEC 4,84	NOV 6,84	0.001	0.0001	0.0407
JAN 2,85	DEC 4,84	0.000	< 0.0000	0.0302

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MILTON/CUMULATIVE PRECIP. #10 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	1245	1000	2	31.7	9	40126	2	1	79	G	
FEB 28,84	JAN 31,84	1000	930	2	69.1	9	40133	2	1	59	FJ	
MAR 27,84	FEB 28,84	930	1015	3	69.6	9	40149	2	1	71	JG	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM		PH LAB	TOTAL H+ TO PH8.3 MG/L		SULPHATE MG/L	NITRATE AS N MG/L		CALCIUM MG/L	
JAN 31,84	JAN 3,84	820.0	30.1		4.50	0.0652		1.55	0.75		0.53	
FEB 28,84	JAN 31,84	1340.0	*****		4.42	0.0680	D	3.00	0.72		0.73	
MAR 27,84	FEB 28,84	1606.0	36.8	U	7.59	0.0192		5.50	0.68	U	4.40	

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MILTON/CUMULATIVE PRECIP. #10

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	U 1.84	0.30	0.140	<T 0.005	U 1.000	0.254	0.016
FEB 28,84	JAN 31,84	0.66	0.35	0.195	0.010	0.460	0.312	0.012
MAR 27,84	FEB 28,84	U 1.67	0.42	U 1.420	0.030	U 0.915	0.116	0.019

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.006	< 0.001	0.015	0.073	0.017	< 0.002	0.051
FEB 28,84	JAN 31,84	0.006	0.002	0.017	0.077	0.014	0.002	0.051
MAR 27,84	FEB 28,84	U 0.026	< 0.001	0.018	0.121	0.010	< 0.002	0.091

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MILTON/CUMULATIVE PRECIP. #10 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER	CADMIUM	FREE H+
		MG/L	MG/L	MG/L
JAN 31,84	JAN 3,84	G 0.012	< 0.0001	0.0316
FEB 28,84	JAN 31,84	< 0.002	0.0001	0.0380
MAR 27,84	FEB 28,84	< 0.002	0.0001	U 0.0000

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : UXBRIDGE/CUMULATIVE PRECIP. #11 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 2,84	1700	1100	2	36.2	9	40127	2	1	70	J	
FEB 27,84	JAN 31,84	1100	1730	3	55.7	9	40134	2	1	57		
MAR 26,84	FEB 27,84	1730	1730	3	76.0	0	40150	2	1	88		
APR 24,84	MAR 26,84	1730	945	1	87.0	0	40156	2	1	64	C	
MAY 22,84	APR 24,84	945	1030	1	66.2	9	40161	2	1	83		
JUN 19,84	MAY 22,84	1030	1100	1	72.0	0	40193	2	1	57		
JUL 17,84	JUN 19,84	1100	1000	1	48.0	0	40218	2	1	40	AC	N
AUG 14,84	JUL 17,84	1000	1430	1	35.0	0	40222	2	1	75		
SEP 11,84	AUG 14,84	1430	1130	1	125.0	0	40223	2	1	94	C	
OCT 9,84	SEP 11,84	1130	1030	1	40.0	0	40227	2	1	79		
NOV 5,84	OCT 9,84	1030	1100	1	35.0	0	40229	2	1	U 0	EK	
DEC 4,84	NOV 5,84	1100	1030	3	60.2	9	40232	2	1	62	C	N
JAN 2,85	DEC 4,84	1030	1130	3	93.0	0	40240	2	1	U 0	G	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 2,84	827.0	35.6	4.18	0.0998	1.55	0.90	0.23
FEB 27,84	JAN 31,84	1040.0	26.1	4.30	0.0778	1.75	0.60	0.17
MAR 26,84	FEB 27,84	2185.0	28.8	4.38	0.0746	2.40	0.49	0.52
APR 24,84	MAR 26,84	1826.0	30.5	4.28	0.0834	2.70	0.42	0.16
MAY 22,84	APR 24,84	1792.0	32.4	4.39	0.0730	4.00	0.72	0.66
JUN 19,84	MAY 22,84	1353.0	20.0	4.68	0.0484	3.00	0.49	0.69
JUL 17,84	JUN 19,84	635.0	24.3	U 5.71	D 0.0228	4.90	0.82	1.89
AUG 14,84	JUL 17,84	863.0	34.7	4.41	0.0702	4.65	0.69	1.19
SEP 11,84	AUG 14,84	3827.0	38.7	4.18	0.0946	3.55	0.52	0.25
OCT 9,84	SEP 11,84	1030.0	49.5	4.07	0.1166	4.55	0.72	0.78
NOV 5,84	OCT 9,84	0.0	*****	*****	******	*****	*****	*****
DEC 4,84	NOV 5,84	1230.0	34.7	4.25	0.0848	3.05	0.60	0.39
JAN 2,85	DEC 4,84	0.0	*****	*****	******	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : UXBRIDGE/CUMULATIVE PRECIP. 811 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 2,84	G 0.53	0.36	0.035	<T 0.015	0.270	0.270	0.021
FEB 27,84	JAN 31,84	0.24	0.24	0.025	<T 0.010	0.105	0.180	0.005
MAR 26,84	FEB 27,84	0.30	D 0.14	0.050	<T 0.005	0.130	0.080	0.007
APR 24,84	MAR 26,84	0.12	0.28	0.015	0.065	0.070	0.175	0.018
MAY 22,84	APR 24,84	0.14	0.81	0.085	0.035	0.030	0.745	<T 0.002
JUN 19,84	MAY 22,84	0.11	0.58	0.095	0.045	0.050	0.470	0.008
JUL 17,84	JUN 19,84	0.33	1.04	0.190	0.100	0.060	0.775	0.030
AUG 14,84	JUL 17,84	0.27	0.45	0.260	0.055	0.100	0.315	0.007
SEP 11,84	AUG 14,84	0.14	0.41	0.040	<T 0.010	0.025	0.325	<T 0.003
OCT 9,84	SEP 11,84	0.17	0.59	0.115	0.085	0.040	0.520	0.008
NOV 5,84	OCT 9,84	*****	*****	*****	*****	*****	*****	*****
DEC 4,84	NOV 5,84	0.24	0.46	0.035	0.020	0.050	0.390	0.005
JAN 2,85	DEC 4,84	*****	*****	*****	*****	*****	*****	*****

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 2,84	0.002	0.002	0.012	0.046	0.008	< 0.002	0.041
FEB 27,84	JAN 31,84	0.002	< 0.001	0.006	0.030	0.007	< 0.002	0.047
MAR 26,84	FEB 27,84	0.003	< 0.001	0.007	0.054	0.005	< 0.002	0.036
APR 24,84	MAR 26,84	0.001	< 0.001	0.004	0.013	0.005	< 0.002	0.018
MAY 22,84	APR 24,84	0.006	< 0.001	0.005	0.099	0.008	< 0.002	0.095
JUN 19,84	MAY 22,84	0.004	< 0.001	0.006	0.070	0.008	< 0.002	0.082
JUL 17,84	JUN 19,84	0.009	< 0.001	0.019	0.133	U 0.023	< 0.002	0.086
AUG 14,84	JUL 17,84	0.008	< 0.001	0.020	0.077	U 0.029	< 0.002	0.076
SEP 11,84	AUG 14,84	0.002	< 0.001	0.003	0.023	0.007	< 0.002	0.049
OCT 9,84	SEP 11,84	0.005	< 0.001	0.007	0.055	0.006	< 0.002	0.069
NOV 5,84	OCT 9,84	*****	*****	*****	*****	*****	*****	*****
DEC 4,84	NOV 5,84	0.003	0.000	0.006	0.041	0.010	0.000	U 0.179
JAN 2,85	DEC 4,84	*****	*****	*****	*****	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : UXBRIDGE/CUMULATIVE PRECIP. #11 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 2,84	0.004	0.0001	0.0661
FEB 27,84	JAN 31,84	0.004	0.0001	0.0501
MAR 26,84	FEB 27,84	< 0.001	0.0003	0.0417
APR 24,84	MAR 26,84	< 0.002	0.0001	0.0525
MAY 22,84	APR 24,84	< 0.002	0.0001	0.0407
JUN 19,84	MAY 22,84	< 0.002	0.0001	0.0209
JUL 17,84	JUN 19,84	0.004	0.0002	U 0.0019
AUG 14,84	JUL 17,84	0.004	0.0002	0.0389
SEP 11,84	AUG 14,84	< 0.001	< 0.0001	0.0661
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0851
NOV 5,84	OCT 9,84	*****	******	******
DEC 4,84	NOV 5,84	0.001	0.0001	0.0562
JAN 2,85	DEC 4,84	*****	******	******

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILBERFORCE/CUMULATIVE PRECIP. #18

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES		SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	930	1000	2	34.0	0	29286	2	1		70		
FEB 28,84	JAN 31,84	1000	700	3	92.0	0	29295	2	1		70		
MAR 27,84	FEB 28,84	700	830	3	63.0	0	29302	2	1		71		
APR 24,84	MAR 27,84	830	700	3	81.0	0	29314	2	1		75		
MAY 22,84	APR 24,84	700	1000	1	70.0	0	29323	2	1	U	84	QFJC	
JUN 19,84	MAY 22,84	1000	800	1	50.0	0	29332	2	1		86	C	
JUL 17,84	JUN 19,84	800	830	1	114.0	0	29337	2	1		64		
AUG 14,84	JUL 17,84	830	1030	1	71.0	0	29350	2	1	U	87	GQ	
SEP 11,84	AUG 14,84	1030	1030	1	83.0	0	29357	2	1		87		
OCT 9,84	SEP 11,84	1030	900	1	51.0	0	29371	2	1		85	A	
NOV 6,84	OCT 9,84	900	1230	3	72.0	0	29377	2	1		81		
DEC 5,84	NOV 6,84	1230	1130	3	66.0	0	29383	2	1		97		
JAN 2,85	DEC 5,84	1130	1230	3	143.0	0	29394	2	1		72	Q	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM		PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	782.0	39.1		4.11	0.1098	1.65	1.04	0.16
FEB 28,84	JAN 31,84	2092.0	35.5		4.17	0.0964	2.50	0.68	0.10
MAR 27,84	FEB 28,84	1465.0	31.5		4.22	0.0936	2.40	0.53	0.16
APR 24,84	MAR 27,84	1990.0	17.1		4.51	0.0558	1.25	0.30	0.12
MAY 22,84	APR 24,84	1927.0	30.0		4.31	0.0868	3.65	0.42	0.40
JUN 19,84	MAY 22,84	1409.0	24.2	G	4.65	0.0528	4.15	0.62	1.01
JUL 17,84	JUN 19,84	2374.0	38.1		4.11	0.0940	3.80	0.42	0.12
AUG 14,84	JUL 17,84	2027.0	30.0		4.26	0.0776	2.80	0.36	0.14
SEP 11,84	AUG 14,84	2365.0	35.9		4.11	0.0990	3.25	0.40	0.11
OCT 9,84	SEP 11,84	1418.0	49.5		4.07	0.1186	4.65	0.74	0.31
NOV 6,84	OCT 9,84	1916.0	35.0		4.22	0.0880	3.00	0.48	0.17
DEC 5,84	NOV 6,84	2086.0	27.0		4.31	0.0724	2.05	0.46	0.20
JAN 2,85	DEC 5,84	3381.0	21.3		4.41	******	1.50	0.44	0.13

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILBERFORCE/CUMULATIVE PRECIP. #18 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.31	0.43	0.030	0.020	0.160	0.310	0.012
FEB 28,84	JAN 31,84	0.24	0.37	0.010	0.025	0.145	0.330	0.005
MAR 27,84	FEB 28,84	0.20	0.24	0.025	<T 0.005	0.090	0.186	0.006
APR 24,84	MAR 27,84	0.07	0.35	0.020	0.020	0.060	0.100	0.015
MAY 22,84	APR 24,84	0.18	0.52	0.060	0.060	0.075	0.410	0.011
JUN 19,84	MAY 22,84	0.14	0.86	G 0.235	0.120	0.085	0.590	G 0.126
JUL 17,84	JUN 19,84	0.09	0.46	0.015	0.040	0.015	0.400	0.006
AUG 14,84	JUL 17,84	0.07	0.31	0.035	<T 0.010	<T 0.010	0.270	0.008
SEP 11,84	AUG 14,84	0.14	0.28	0.015	<T 0.010	0.040	0.210	<T 0.003
OCT 9,84	SEP 11,84	0.15	0.55	0.045	0.030	<T 0.015	0.540	<T 0.003
NOV 6,84	OCT 9,84	0.13	0.31	0.015	<W 0.005	0.035	0.270	<T 0.003
DEC 5,84	NOV 6,84	0.14	0.29	0.015	<W 0.005	0.045	0.255	<T 0.004
JAN 2,85	DEC 5,84	0.14	0.23	<T 0.015	<T 0.015	0.045	0.180	<T 0.004

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.003	< 0.001	0.009	0.064	0.010	< 0.002	0.022
FEB 28,84	JAN 31,84	0.001	< 0.001	0.004	0.023	0.006	< 0.002	0.029
MAR 27,84	FEB 28,84	0.002	< 0.001	0.005	0.043	0.005	< 0.002	0.034
APR 24,84	MAR 27,84	< 0.001	< 0.001	< 0.003	0.015	0.003	< 0.002	0.022
MAY 22,84	APR 24,84	0.007	< 0.001	0.003	0.071	0.003	< 0.002	0.075
JUN 19,84	MAY 22,84	0.007	< 0.001	0.006	0.101	0.008	< 0.002	0.106
JUL 17,84	JUN 19,84	0.001	< 0.001	0.003	0.025	0.003	< 0.002	0.017
AUG 14,84	JUL 17,84	0.002	< 0.001	0.002	0.020	0.005	< 0.002	0.011
SEP 11,84	AUG 14,84	0.002	< 0.001	0.002	0.017	0.005	< 0.002	0.049
OCT 9,84	SEP 11,84	0.003	< 0.001	0.006	0.028	0.007	< 0.002	0.035
NOV 6,84	OCT 9,84	0.001	< 0.001	0.003	0.018	0.004	< 0.002	0.021
DEC 5,84	NOV 6,84	0.002	0.000	0.003	0.020	0.005	< 0.000	0.019
JAN 2,85	DEC 5,84	0.002	0.000	0.003	0.029	0.005	< 0.000	0.026

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILBERFORCE/CUMULATIVE PRECIP. 818

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.002	0.0002	0.0776
FEB 28,84	JAN 31,84	0.001	0.0001	0.0676
MAR 27,84	FEB 28,84	< 0.002	< 0.0001	0.0603
APR 24,84	MAR 27,84	0.001	< 0.0001	0.0309
MAY 22,84	APR 24,84	0.001	< 0.0001	0.0490
JUN 19,84	MAY 22,84	0.002	0.0001	G 0.0224
JUL 17,84	JUN 19,84	< 0.001	0.0001	0.0776
AUG 14,84	JUL 17,84	< 0.001	< 0.0001	0.0550
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0776
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0851
NOV 6,84	OCT 9,84	0.002	0.0001	0.0603
DEC 5,84	NOV 6,84	0.001	0.0001	0.0490
JAN 2,85	DEC 5,84	0.001	0.0001	0.0389

PART V

SOUTHEASTERN REGION

CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CLOYNE/CUMULATIVE PRECIP. #14 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 2,85	DEC 4,84	800	800	3	*****	*	24409	2	1	***		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 2,85	DEC 4,84	1604.0	25.2	4.36	******	2.30	0.52	0.40

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CLOYNE/CUMULATIVE PRECIP. #14 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 2,85	DEC 4,84	0.26	0.35	0.030	0.070	0.100	0.260	0.009

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 2,85	DEC 4,84	0.002	0.001	0.007	0.023	0.007	< 0.000	0.032

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CLOYNE/CUMULATIVE PRECIP. 814 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 2,85	DEC 4,84	0.003	0.0005	0.0437

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DALHOUSIE MILLS/CUMULATIVE PRECIP. #16 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	830	800	2	48.7	9	24316	2	1	32	Q	
FEB 28,84	JAN 31,84	900	800	2	32.0	0	24322	2	1	U 47	G	
MAR 27,84	FEB 28,84	900	800	1	25.1	0	24327	2	1	79	A	H
APR 24,84	MAR 27,84	900	800	1	65.0	0	24332	2	1	U 72	ACDFJ	HM
MAY 22,84	APR 24,84	900	800	1	65.0	0	24341	2	1	76	BAD	
JUN 19,84	MAY 22,84	900	800	1	62.0	0	24351	2	1	79		
JUL 17,84	JUN 19,84	900	800	1	116.0	9	24365	2	1	96	ACDF	
AUG 14,84	JUL 17,84	900	800	1	55.5	9	24371	2	1	51	AD	N
SEP 11,84	AUG 14,84	900	800	1	156.3	9	24376	2	1	96	AD	N
OCT 9,84	SEP 11,84	800	900	1	38.0	0	24383	2	1	86	CD	
NOV 6,84	OCT 9,84	900	800	1	39.0	0	24389	2	1	78	D	
DEC 4,84	NOV 6,84	800	800	2	79.9	9	24400	2	1	74	CDP	
JAN 2,85	DEC 4,84	800	800	2	93.0	9	24406	2	1	47		N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	507.0	55.0	4.05	0.1328	3.30	G 1.49	D 0.72
FEB 28,84	JAN 31,84	496.0	20.4	4.51	0.0576	1.40	0.50	0.18
MAR 27,84	FEB 28,84	649.0	28.5	U 4.89	0.0520	3.50	0.99	U 1.50
APR 24,84	MAR 27,84	1539.0	13.3	U 7.01	U 0.0254	D 2.40	0.31	0.58
MAY 22,84	APR 24,84	1623.0	25.5	G 4.66	0.0468	3.40	0.55	0.77
JUN 19,84	MAY 22,84	1596.0	40.3	4.19	0.0884	4.75	0.58	0.49
JUL 17,84	JUN 19,84	3650.0	31.6	4.18	0.0724	3.65	0.40	0.17
AUG 14,84	JUL 17,84	926.0	B 63.8	U 4.01	0.1276	U 8.00	U 0.85	D 0.50
SEP 11,84	AUG 14,84	4920.0	26.5	4.35	0.0726	2.80	0.24	0.13
OCT 9,84	SEP 11,84	1069.0	37.3	4.21	0.0800	4.70	0.76	0.64
NOV 6,84	OCT 9,84	999.0	31.4	4.18	0.0926	3.50	0.53	0.21
DEC 4,84	NOV 6,84	1937.0	31.5	4.23	0.0926	2.35	0.59	0.12
JAN 2,85	DEC 4,84	1430.0	28.3	4.32	******	2.35	0.58	D 0.24

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DALHOUSIE MILLS/CUMULATIVE PRECIP. #16

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	U 0.92	0.85	D 0.065	0.030	U 0.645	0.730	0.017
FEB 28,84	JAN 31,84	0.36	0.36	0.030	<T 0.015	0.175	0.338	0.012
MAR 27,84	FEB 28,84	U 0.82	D 0.94	U 0.185	D 0.060	U 0.655	D 0.690	B 0.048
APR 24,84	MAR 27,84	D 0.16	B 1.67	0.075	D 0.135	D 0.125	D 0.615	G 0.125
MAY 22,84	APR 24,84	0.12	0.85	0.095	0.130	0.060	0.575	0.033
JUN 19,84	MAY 22,84	0.14	0.75	0.080	0.150	0.055	0.575	0.020
JUL 17,84	JUN 19,84	0.21	0.59	0.035	0.035	0.030	0.370	D 0.019
AUG 14,84	JUL 17,84	0.28	G 1.82	0.090	0.105	0.095	G 1.500	0.100
SEP 11,84	AUG 14,84	0.09	0.27	0.015	<W 0.005	0.045	0.200	0.009
OCT 9,84	SEP 11,84	0.16	0.74	0.100	0.080	G 0.345	0.650	<T 0.003
NOV 6,84	OCT 9,84	0.13	D 0.55	0.025	<W 0.005	0.040	D 0.535	<T 0.004
DEC 4,84	NOV 6,84	0.22	0.36	0.020	0.030	0.100	0.335	0.006
JAN 2,85	DEC 4,84	0.21	0.42	0.030	D 0.085	0.115	0.340	0.007

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	G 0.019	0.005	0.036	0.096	U 0.024	0.002	0.064
FEB 28,84	JAN 31,84	0.007	0.002	0.009	D 0.080	0.009	< 0.002	0.104
MAR 27,84	FEB 28,84	G 0.017	0.002	0.024	G 0.191	G 0.020	< 0.002	B 0.182
APR 24,84	MAR 27,84	0.005	0.005	D 0.016	D 0.051	0.007	< 0.002	D 0.034
MAY 22,84	APR 24,84	0.010	< 0.001	0.008	0.103	0.010	< 0.002	0.116
JUN 19,84	MAY 22,84	0.006	< 0.001	0.006	0.055	0.011	< 0.002	0.068
JUL 17,84	JUN 19,84	0.002	< 0.001	0.004	0.022	0.004	< 0.002	0.025
AUG 14,84	JUL 17,84	0.004	< 0.001	0.012	0.066	0.009	< 0.002	0.067
SEP 11,84	AUG 14,84	0.001	< 0.001	0.011	0.026	0.005	< 0.002	0.012
OCT 9,84	SEP 11,84	0.006	< 0.001	0.009	0.035	D 0.013	< 0.002	0.059
NOV 6,84	OCT 9,84	0.003	0.000	0.009	0.018	0.011	0.001	0.027
DEC 4,84	NOV 6,84	0.002	0.000	0.007	0.020	0.007	0.001	0.025
JAN 2,85	DEC 4,84	0.005	0.001	0.007	0.031	0.013	0.001	0.030

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DALHOUSIE MILLS/CUMULATIVE PRECIP. #16

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	0.006	0.0003	0.0891
FEB 28,84	JAN 31,84	0.002	0.0001	0.0309
MAR 27,84	FEB 28,84	0.004	0.0002	U 0.0129
APR 24,84	MAR 27,84	U 0.026	0.0002	U 0.0001
MAY 22,84	APR 24,84	< 0.002	0.0001	G 0.0219
JUN 19,84	MAY 22,84	< 0.002	0.0001	0.0646
JUL 17,84	JUN 19,84	< 0.001	0.0001	0.0661
AUG 14,84	JUL 17,84	0.002	0.0003	U 0.0977
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0447
OCT 9,84	SEP 11,84	0.002	0.0001	0.0617
NOV 6,84	OCT 9,84	0.001	0.0001	0.0661
DEC 4,84	NOV 6,84	0.000	0.0001	0.0589
JAN 2,85	DEC 4,84	0.001	0.0001	0.0479

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOLDEN LAKE/CUMULATIVE PRECIP. #17 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	650	720	2	24.3	0	24319	2	1	U 68	FI	
FEB 28,84	JAN 31,84	725	735	2	47.7	9	24326	2	1	97		N
MAR 27,84	FEB 28,84	740	720	3	60.0	0	24330	2	1	83		
APR 24,84	MAR 27,84	725	725	1	91.3	9	24338	2	1	94	DP	
MAY 22,84	APR 24,84	730	640	1	69.0	0	24344	2	1	82	D	
JUN 19,84	MAY 22,84	645	755	1	36.4	9	24349	2	1	98		
JUL 17,84	JUN 19,84	800	630	1	112.9	9	24362	2	1	58	CD	
AUG 14,84	JUL 17,84	635	635	1	58.9	9	24373	2	1	57	F	H
SEP 11,84	AUG 14,84	640	730	1	68.0	0	24379	2	1	75	AD	
OCT 9,84	SEP 11,84	730	710	1	44.0	0	24384	2	1	93	AD	
NOV 6,84	OCT 9,84	710	730	1	43.0	0	24390	2	1	88		
DEC 4,84	NOV 6,84	730	745	3	61.0	0	24401	2	1	84		
JAN 2,85	DEC 4,84	745	830	3	90.0	0	24407	2	1	95	C	N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	538.0	44.0	4.04	0.1290	0.95	G 1.19	0.13
FEB 28,84	JAN 31,84	1510.0	21.5	4.51	0.0588	1.95	0.52	0.30
MAR 27,84	FEB 28,84	1631.0	23.7	4.41	0.0692	1.95	0.38	0.18
APR 24,84	MAR 27,84	2805.0	16.6	4.53	0.0574	1.40	0.26	0.11
MAY 22,84	APR 24,84	1839.0	31.5	4.29	0.0784	3.45	0.42	0.45
JUN 19,84	MAY 22,84	1160.0	35.2	4.22	0.0916	5.50	0.67	0.65
JUL 17,84	JUN 19,84	2130.0	39.4	4.10	0.0870	4.50	0.46	0.17
AUG 14,84	JUL 17,84	1105.0	19.3	U 5.70	0.0360	3.75	0.37	0.20
SEP 11,84	AUG 14,84	1671.0	21.7	4.40	0.0606	1.95	0.26	0.11
OCT 9,84	SEP 11,84	1334.0	37.6	4.12	0.0916	3.85	0.59	0.30
NOV 6,84	OCT 9,84	1230.0	25.5	4.26	0.0734	2.20	0.31	0.17
DEC 4,84	NOV 6,84	1666.0	21.2	4.39	0.0664	1.60	0.33	0.07
JAN 2,85	DEC 4,84	2795.0	15.8	4.53	******	0.95	0.31	<T 0.04

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOLDEN LAKE/CUMULATIVE PRECIP. #17 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.37	0.20	0.035	<W 0.005	0.145	0.100	0.012
FEB 28,84	JAN 31,84	0.42	U 2.58	0.055	U 0.260	U 0.490	0.218	0.015
MAR 27,84	FEB 28,84	0.17	0.17	0.045	0.025	0.125	0.124	0.011
APR 24,84	MAR 27,84	0.05	0.55	0.020	0.040	0.050	0.110	G 0.080
MAY 22,84	APR 24,84	0.09	0.69	0.075	0.100	0.050	0.265	0.034
JUN 19,84	MAY 22,84	0.22	1.26	0.130	0.240	0.095	0.880	0.041
JUL 17,84	JUN 19,84	0.14	0.69	0.030	0.025	<W 0.005	0.550	0.010
AUG 14,84	JUL 17,84	0.19	G 2.03	0.060	<W 0.005	0.035	G 1.400	U 0.333
SEP 11,84	AUG 14,84	0.07	0.30	0.015	<W 0.005	0.025	0.160	0.006
OCT 9,84	SEP 11,84	0.10	0.66	0.050	0.030	0.025	0.490	0.009
NOV 6,84	OCT 9,84	0.12	0.20	0.015	<W 0.005	0.045	0.145	0.006
DEC 4,84	NOV 6,84	0.08	0.15	<T 0.005	<T 0.020	0.025	0.130	<T 0.002
JAN 2,85	DEC 4,84	0.13	0.09	<T 0.010	<W 0.005	<T 0.010	0.040	<T 0.004

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.002	< 0.001	0.005	0.019	0.005	< 0.002	0.045
FEB 28,84	JAN 31,84	0.003	< 0.001	0.015	0.022	0.009	< 0.002	0.051
MAR 27,84	FEB 28,84	0.002	< 0.001	0.005	0.022	0.008	< 0.002	0.031
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.010	< 0.001	0.004	0.093	0.008	< 0.002	0.094
JUN 19,84	MAY 22,84	0.010	< 0.001	0.007	0.075	0.010	< 0.002	0.078
JUL 17,84	JUN 19,84	0.002	< 0.001	0.003	0.025	0.006	< 0.002	0.017
AUG 14,84	JUL 17,84	0.002	< 0.001	0.006	0.029	0.007	< 0.002	0.017
SEP 11,84	AUG 14,84	0.002	< 0.001	0.006	0.016	0.004	< 0.002	0.014
OCT 9,84	SEP 11,84	0.003	< 0.001	0.005	0.017	0.007	< 0.002	0.031
NOV 6,84	OCT 9,84	0.001	< 0.000	0.003	0.023	0.007	< 0.000	0.017
DEC 4,84	NOV 6,84	0.001	< 0.000	0.003	0.009	0.004	< 0.000	0.017
JAN 2,85	DEC 4,84	0.001	0.000	< 0.003	0.016	0.003	< 0.000	0.014

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOLDEN LAKE/CUMULATIVE PRECIP. #17

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.003	< 0.0001	0.0912
FEB 28,84	JAN 31,84	0.007	0.0003	0.0309
MAR 27,84	FEB 28,84	< 0.002	< 0.0001	0.0389
APR 24,84	MAR 27,84	*****	******	0.0295
MAY 22,84	APR 24,84	< 0.002	0.0001	0.0513
JUN 19,84	MAY 22,84	< 0.002	0.0001	0.0603
JUL 17,84	JUN 19,84	< 0.001	0.0001	0.0794
AUG 14,84	JUL 17,84	0.001	0.0001	U 0.0020
SEP 11,84	AUG 14,84	< 0.002	0.0001	0.0398
OCT 9,84	SEP 11,84	0.002	0.0001	0.0759
NOV 6,84	OCT 9,84	0.002	0.0000	0.0550
DEC 4,84	NOV 6,84	0.000	< 0.0000	0.0407
JAN 2,85	DEC 4,84	0.000	0.0000	0.0295

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SMITH'S FALLS/CUMULATIVE PRECIP. #15

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	930	1135	2	24.3	0	24314	2	1	54		
FEB 28,84	JAN 31,84	1135	1000	2	38.0	0	24323	2	1	76		
MAR 27,84	FEB 28,84	1000	940	4	35.0	0	24328	2	1	38		NHM
APR 24,84	MAR 27,84	940	900	1	117.5	9	24334	2	1	64	AFD	
MAY 22,84	APR 24,84	945	1140	1	88.0	9	24342	2	1	60	DA	NH
JUN 19,84	MAY 22,84	1140	940	1	49.0	0	24348	2	1	72	AQ	C
JUL 17,84	JUN 19,84	940	940	1	60.0	0	24359	2	1	82		T
AUG 14,84	JUL 17,84	945	1045	1	120.0	0	24372	2	1	102		N
SEP 11,84	AUG 14,84	1045	930	1	69.0	0	24377	2	1	79	AD	
OCT 9,84	SEP 11,84	930	1045	1	36.2	9	24382	2	1	58	D	N
NOV 6,84	OCT 9,84	1045	1010	1	37.0	0	24388	2	1	65		
DEC 4,84	NOV 6,84	1010	915	2	37.0	0	24399	2	1	73	C	
JAN 2,85	DEC 4,84	1010	1100	2	80.0	0	24405	2	1	51		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	430.0	*****	*****	******	*****	*****	*****
FEB 28,84	JAN 31,84	947.0	24.6	4.47	0.0644	2.00	0.54	0.34
MAR 27,84	FEB 28,84	440.0	21.0	U 7.52	0.0182	3.20	0.75	U 1.73
APR 24,84	MAR 27,84	2450.0	13.0	4.78	0.0434	1.45	0.27	0.33
MAY 22,84	APR 24,84	1731.0	26.0	U 5.39	0.0256	4.45	0.67	U 1.44
JUN 19,84	MAY 22,84	1155.0	40.5	U 7.39	0.0298	5.10	0.44	1.03
JUL 17,84	JUN 19,84	1607.0	D 59.8	D 3.87	D 0.1276	6.05	D 0.73	0.23
AUG 14,84	JUL 17,84	4010.0	32.0	4.21	0.0784	2.80	0.43	0.17
SEP 11,84	AUG 14,84	1792.0	36.9	4.17	0.0930	3.65	0.39	0.15
OCT 9,84	SEP 11,84	685.0	41.1	4.08	0.0956	4.30	0.81	0.60
NOV 6,84	OCT 9,84	782.0	33.5	4.19	0.0836	2.85	0.54	0.25
DEC 4,84	NOV 6,84	882.0	D 45.6	4.08	0.1218	3.05	D 1.00	0.21
JAN 2,85	DEC 4,84	1345.0	28.2	4.27	******	1.90	0.56	0.10

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SMITH'S FALLS/CUMULATIVE PRECIP. #15 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	*****	*****	*****	*****	*****	*****	*****
FEB 28,84	JAN 31,84	U 0.74	0.27	D 0.120	<T 0.005	U 0.520	0.154	B 0.064
MAR 27,84	FEB 28,84	U 0.85	0.41	U 0.630	0.025	U 0.635	0.236	0.015
APR 24,84	MAR 27,84	0.07	0.22	0.085	0.050	0.060	0.145	0.014
MAY 22,84	APR 24,84	0.18	0.68	U 0.430	0.080	0.095	0.455	0.027
JUN 19,84	MAY 22,84	U 0.48	U 6.05	U 0.400	U 0.380	U 0.415	U 2.600	U 0.400
JUL 17,84	JUN 19,84	0.27	0.61	0.055	0.030	0.035	0.495	0.005
AUG 14,84	JUL 17,84	0.13	0.29	0.030	<T 0.005	0.035	0.235	<W 0.001
SEP 11,84	AUG 14,84	0.10	0.34	0.035	<T 0.010	0.050	0.290	<T 0.002
OCT 9,84	SEP 11,84	0.16	0.56	0.105	0.030	0.055	0.505	<T 0.001
NOV 6,84	OCT 9,84	D 0.17	0.32	0.045	<W 0.005	0.060	0.280	<T 0.003
DEC 4,84	NOV 6,84	0.25	0.42	0.040	0.030	0.095	0.425	0.006
JAN 2,85	DEC 4,84	0.16	0.33	0.020	0.025	0.065	0.235	0.006

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	*****	*****	*****	*****	*****	*****	*****
FEB 28,84	JAN 31,84	0.003	< 0.001	0.015	0.022	0.007	< 0.002	0.076
MAR 27,84	FEB 28,84	0.010	< 0.001	U 0.054	0.117	0.016	< 0.002	0.063
APR 24,84	MAR 27,84	0.003	< 0.001	0.004	0.019	0.005	< 0.002	0.022
MAY 22,84	APR 24,84	G 0.014	< 0.001	0.010	0.106	0.010	< 0.002	0.126
JUN 19,84	MAY 22,84	G 0.013	< 0.001	B 0.021	0.120	0.010	< 0.002	0.145
JUL 17,84	JUN 19,84	0.003	< 0.001	L 0.005	L 0.013	L 0.006	< 0.002	L 0.026
AUG 14,84	JUL 17,84	0.003	< 0.001	0.004	0.020	0.004	< 0.002	0.014
SEP 11,84	AUG 14,84	0.002	< 0.001	0.007	0.020	0.002	< 0.002	0.031
OCT 9,84	SEP 11,84	0.007	< 0.001	0.008	0.032	0.006	< 0.002	0.056
NOV 6,84	OCT 9,84	0.002	0.000	0.009	D 0.055	0.004	0.001	0.035
DEC 4,84	NOV 6,84	0.003	0.000	0.008	0.026	0.011	0.001	0.038
JAN 2,85	DEC 4,84	0.002	< 0.000	0.005	0.017	0.008	0.001	0.025

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SMITH'S FALLS/CUMULATIVE PRECIP. #15

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	*****	******	******
FEB 28,84	JAN 31,84	0.002	< 0.0001	0.0339
MAR 27,84	FEB 28,84	< 0.003	0.0001	U 0.0000
APR 24,84	MAR 27,84	0.001	< 0.0001	0.0166
MAY 22,84	APR 24,84	0.001	0.0002	U 0.0041
JUN 19,84	MAY 22,84	0.005	0.0001	U 0.0000
JUL 17,84	JUN 19,84	L< 0.001	0.0001	D 0.1349
AUG 14,84	JUL 17,84	< 0.001	< 0.0001	0.0617
SEP 11,84	AUG 14,84	< 0.002	0.0001	0.0676
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0832
NOV 6,84	OCT 9,84	0.001	0.0001	0.0646
DEC 4,84	NOV 6,84	0.001	0.0001	0.0832
JAN 2,85	DEC 4,84	0.000	0.0001	0.0537

PART VI

NORTHEASTERN REGION

CUMULATIVE PRECIPITATION CHENISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : ATTAWAPISKAT/CUMULATIVE PRECIP. 828

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	1345	945	2	*****	*	11783	2	1	***	E	
FEB 28,84	JAN 31,84	1300	1200	2	*****	*	11769	2	1	***	E	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	18.0	*****	*****	******	*****	*****	*****
FEB 28,84	JAN 31,84	0.0	*****	*****	******	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : ATTAWAPISKAT/CUMULATIVE PRECIP. #28 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	*****	*****	*****	*****	*****	*****	*****
FEB 28,84	JAN 31,84	*****	*****	*****	*****	*****	*****	*****

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	*****	*****	*****	*****	*****	*****	*****
FEB 28,84	JAN 31,84	*****	*****	*****	*****	*****	*****	*****

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : ATTAWAPISKAT/CUMULATIVE PRECIP. #28

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	*****	******	******
FEB 28,84	JAN 31,84	*****	******	******

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : AZURE LAKE/CUMULATIVE PRECIP. #26 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
FEB 1,84	JAN 9,84	1030	1030	3	31.1	0	11775	2	1	U 30	G	N
MAR 28,84	MAR 5,84	1000	1030	4	20.6	0	11807	2	1	77		
APR 24,84	MAR 28,84	1030	830	1	37.3	0	11824	2	1	68	C	
MAY 22,84	APR 24,84	830	900	1	62.6	9	11831	2	1	36	CD	
JUN 21,84	MAY 22,84	900	1000	1	102.7	0	11851	2	1	62	AC	
JUL 18,84	JUN 21,84	1100	1500	1	169.0	0	11863	2	1	U 34	ADQG	
AUG 15,84	JUL 18,84	1500	1025	1	35.0	0	11877	2	1	80	CD	
SEP 11,84	AUG 15,84	1025	1040	1	79.0	0	35225	2	1	86	BC	
OCT 10,84	SEP 11,84	1040	1215	1	81.0	0	35239	2	1	86	DC	
NOV 7,84	OCT 10,84	1215	1400	3	82.5	9	35252	2	1	90	ACD	
DEC 4,84	NOV 7,84	1400	1400	3	52.7	0	35277	2	1	76		
JAN 10,85	DEC 4,84	1400	1130	3	68.0	0	35317	2	1	79		N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
FEB 1,84	JAN 9,84	305.0	28.7	4.25	0.0868	1.20	0.73	0.88
MAR 28,84	MAR 5,84	516.0	50.0	3.99	0.1344	4.35	0.69	0.14
APR 24,84	MAR 28,84	827.0	15.7	4.53	0.0592	1.55	0.10	0.06
MAY 22,84	APR 24,84	750.0	30.9	4.41	0.0736	4.40	0.60	G 0.85
JUN 21,84	MAY 22,84	2083.0	21.6	4.51	0.0536	2.55	0.30	0.16
JUL 18,84	JUN 21,84	1911.0	13.0	4.64	0.0500	1.75	0.18	0.10
AUG 15,84	JUL 18,84	910.0	24.9	4.41	0.0588	3.30	0.28	0.28
SEP 11,84	AUG 15,84	2226.0	17.8	4.75	0.0392	2.15	0.20	0.12
OCT 10,84	SEP 11,84	2273.0	16.1	4.58	0.0488	1.55	0.19	0.08
NOV 7,84	OCT 10,84	2411.0	18.9	4.52	0.0518	1.60	0.23	0.08
DEC 4,84	NOV 7,84	1315.0	16.7	4.57	0.0502	D 1.00	0.35	0.04
JAN 10,85	DEC 4,84	1759.0	15.4	4.59	0.0470	0.95	0.27	<T 0.04

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : AZURE LAKE/CUMULATIVE PRECIP. #26 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
FEB 1,84	JAN 9,84	0.13	0.19	0.010	<T 0.015	0.050	0.086	0.007
MAR 28,84	MAR 5,84	0.23	0.39	0.030	0.030	0.100	0.310	0.007
APR 24,84	MAR 28,84	0.04	0.14	0.010	0.035	0.030	0.070	<T 0.004
MAY 22,84	APR 24,84	0.20	0.80	0.130	0.140	0.090	0.575	G 0.128
JUN 21,84	MAY 22,84	0.09	0.56	0.030	0.105	0.055	0.385	0.024
JUL 18,84	JUN 21,84	0.09	0.50	0.010	0.030	0.030	0.260	0.017
AUG 15,84	JUL 18,84	0.08	0.67	0.070	0.100	0.030	0.390	0.028
SEP 11,84	AUG 15,84	U 0.74	0.64	0.015	B 0.330	U 0.595	0.325	0.007
OCT 10,84	SEP 11,84	<T 0.02	0.16	0.005	<T 0.005	<T 0.005	0.130	<T 0.003
NOV 7,84	OCT 10,84	0.10	0.19	0.010	<T 0.005	0.035	0.150	<T 0.002
DEC 4,84	NOV 7,84	0.15	0.23	0.005	0.020	0.110	0.140	<T 0.004
JAN 10,85	DEC 4,84	0.10	0.12	<W 0.005	<T 0.020	<T 0.015	0.075	<T 0.002

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
FEB 1,84	JAN 9,84	0.002	0.005	0.010	B 0.140	0.007	< 0.002	0.085
MAR 28,84	MAR 5,84	0.002	< 0.001	0.018	0.034	0.010	< 0.002	0.047
APR 24,84	MAR 28,84	0.001	< 0.001	0.009	0.020	0.015	< 0.002	0.024
MAY 22,84	APR 24,84	G 0.014	< 0.001	0.007	G 0.187	0.008	< 0.002	G 0.296
JUN 21,84	MAY 22,84	0.005	< 0.001	0.003	0.057	0.007	< 0.002	0.071
JUL 18,84	JUN 21,84	0.002	< 0.001	0.003	0.018	0.004	< 0.002	0.027
AUG 15,84	JUL 18,84	0.006	< 0.001	0.006	0.053	0.003	< 0.002	0.043
SEP 11,84	AUG 15,84	0.003	< 0.001	0.014	0.059	0.005	< 0.002	0.081
OCT 10,84	SEP 11,84	< 0.001	< 0.010	< 0.003	D 0.012	0.002	< 0.002	0.009
NOV 7,84	OCT 10,84	0.002	< 0.001	0.003	0.015	0.002	< 0.002	0.013
DEC 4,84	NOV 7,84	0.001	0.000	0.006	0.018	0.004	< 0.000	0.018
JAN 10,85	DEC 4,84	< 0.001	0.000	0.004	0.021	0.004	< 0.000	0.016

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : AZURE LAKE/CUMULATIVE PRECIP. #26 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
FEB 1,84	JAN 9,84	0.004	0.0001	0.0562
MAR 28,84	MAR 5,84	0.002	0.0001	0.1023
APR 24,84	MAR 28,84	0.003	0.0003	0.0295
MAY 22,84	APR 24,84	0.002	< 0.0001	0.0389
JUN 21,84	MAY 22,84	0.001	0.0001	0.0309
JUL 18,84	JUN 21,84	< 0.002	0.0001	0.0229
AUG 15,84	JUL 18,84	< 0.002	0.0001	0.0389
SEP 11,84	AUG 15,84	0.004	0.0001	0.0178
OCT 10,84	SEP 11,84	< 0.001	0.0001	0.0263
NOV 7,84	OCT 10,84	0.001	0.0002	0.0302
DEC 4,84	NOV 7,84	0.001	0.0001	0.0269
JAN 10,85	DEC 4,84	0.001	< 0.0000	0.0257

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BEAR ISLAND/CUMULATIVE PRECIP. #24 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	1615	1341	2	17.5	0	11780	2	1	U 96	F	
MAR 27,84	FEB 28,84	1713	1020	4	13.7	0	11806	2	1	84		
APR 24,84	MAR 27,84	1025	1339	1	38.4	9	11828	2	1	117	CDG	
MAY 22,84	APR 24,84	1349	1705	1	54.0	9	11847	2	1	61	ACDIF	M
JUN 19,84	MAY 22,84	1705	1655	1	89.0	0	11857	2	1	79	ABC	
JUL 17,84	JUN 19,84	1655	1657	1	159.1	9	11858	2	1	60	ABCDG	
AUG 14,84	JUL 17,84	1658	935	1	58.0	0	11880	2	1	85		
SEP 11,84	AUG 14,84	935	800	1	53.0	0	35228	2	1	83	BD	
OCT 12,84	SEP 11,84	1158	958	1	54.0	0	35250	2	1	98	ABCD	
NOV 7,84	OCT 12,84	958	1621	3	55.0	0	35261	2	1	113	BCD	
DEC 4,84	NOV 7,84	1630	1640	2	62.0	0	35313	2	1	0	E	
JAN 2,85	DEC 4,84	1640	1015	3	85.0	0	35312	2	1	61		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	550.0	25.1	4.24	0.0762	0.95	0.63	0.05
MAR 27,84	FEB 28,84	375.0	46.5	4.04	0.1238	3.90	0.74	0.31
APR 24,84	MAR 27,84	1469.0	10.4	4.69	0.0434	1.05	0.08	0.19
MAY 22,84	APR 24,84	1072.0	38.8	U 7.34	0.0426	5.00	0.40	0.51
JUN 19,84	MAY 22,84	2300.0	30.5	4.18	0.0878	3.65	0.45	0.30
JUL 17,84	JUN 19,84	3133.0	20.6	4.52	0.0566	3.35	0.28	0.17
AUG 14,84	JUL 17,84	1605.0	26.5	D 4.32	0.0682	3.15	0.23	0.10
SEP 11,84	AUG 14,84	1441.0	39.3	4.12	0.1056	4.30	0.46	0.25
OCT 12,84	SEP 11,84	1725.0	33.7	4.28	0.0892	3.75	0.44	0.38
NOV 7,84	OCT 12,84	2035.0	27.0	4.31	0.0686	2.55	0.36	0.12
DEC 4,84	NOV 7,84	0.0	*****	*****	******	*****	*****	*****
JAN 2,85	DEC 4,84	1692.0	22.7	4.35	******	1.45	0.39	0.07

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BEAR ISLAND/CUMULATIVE PRECIP. #24 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.14	0.20	0.010	<T 0.005	0.045	0.072	0.010
MAR 27,84	FEB 28,84	0.27	*****	0.045	0.035	0.175	0.226	*****
APR 24,84	MAR 27,84	0.08	0.12	0.025	0.020	0.030	0.040	<T 0.004
MAY 22,84	APR 24,84	0.31	U 6.00	0.090	U 0.585	U 0.425	U 3.600	U 0.455
JUN 19,84	MAY 22,84	0.10	0.58	0.050	0.020	0.015	0.315	0.012
JUL 17,84	JUN 19,84	0.18	1.07	0.035	0.125	0.080	0.670	0.090
AUG 14,84	JUL 17,84	0.13	0.54	0.030	0.080	0.165	0.360	0.013
SEP 11,84	AUG 14,84	0.22	0.57	0.035	D 0.210	D 0.110	0.345	0.018
OCT 12,84	SEP 11,84	0.19	0.57	0.065	0.255	0.160	0.350	0.026
NOV 7,84	OCT 12,84	0.09	0.26	0.030	0.325	0.020	0.195	0.009
DEC 4,84	NOV 7,84	*****	*****	*****	*****	*****	*****	*****
JAN 2,85	DEC 4,84	0.14	0.13	<T 0.010	0.030	0.050	0.060	0.005

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.001	0.002	0.005	0.015	0.008	< 0.002	0.049
MAR 27,84	FEB 28,84	0.003	0.003	0.010	0.061	0.010	< 0.002	0.074
APR 24,84	MAR 27,84	< 0.001	< 0.001	0.003	0.009	0.013	< 0.002	0.008
MAY 22,84	APR 24,84	0.006	< 0.001	G 0.028	G 0.208	0.013	< 0.002	G 0.236
JUN 19,84	MAY 22,84	0.003	< 0.001	0.003	0.032	0.008	< 0.002	0.029
JUL 17,84	JUN 19,84	0.002	< 0.001	0.006	0.042	0.009	< 0.002	0.038
AUG 14,84	JUL 17,84	0.002	< 0.001	0.007	0.027	0.007	< 0.002	0.021
SEP 11,84	AUG 14,84	0.003	< 0.001	0.007	0.033	0.007	< 0.002	0.037
OCT 12,84	SEP 11,84	0.003	< 0.001	0.007	0.018	0.005	< 0.002	0.022
NOV 7,84	OCT 12,84	0.002	< 0.001	0.004	0.012	0.004	< 0.002	0.013
DEC 4,84	NOV 7,84	*****	*****	*****	*****	*****	*****	*****
JAN 2,85	DEC 4,84	0.001	0.001	0.005	0.032	0.007	< 0.000	0.030

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BEAR ISLAND/CUMULATIVE PRECIP. #24

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	0.003	0.0002	0.0575
MAR 27,84	FEB 28,84	0.003	0.0001	0.0912
APR 24,84	MAR 27,84	0.001	< 0.0001	0.0204
MAY 22,84	APR 24,84	0.004	0.0004	U 0.0000
JUN 19,84	MAY 22,84	< 0.001	0.0001	0.0661
JUL 17,84	JUN 19,84	0.004	0.0002	0.0302
AUG 14,84	JUL 17,84	0.002	0.0005	D 0.0479
SEP 11,84	AUG 14,84	0.002	0.0010	0.0759
OCT 12,84	SEP 11,84	0.003	0.0002	0.0525
NOV 7,84	OCT 12,84	0.001	0.0002	0.0490
DEC 4,84	NOV 7,84	******	******	******
JAN 2,85	DEC 4,84	0.001	0.0001	0.0447

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOWGANDA/CUMULATIVE PRECIP. #25 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES		SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	1300	1045	2	12.2	0	11781	2	1		58		
FEB 28,84	JAN 31,84	1045	857	2	34.5	0	11799	2	1	U	63	G	M
MAR 27,84	FEB 28,84	857	952	4	14.8	0	11805	2	1		54		
APR 24,84	MAR 27,84	952	915	1	27.9	0	11837	2	1		95	D	
MAY 22,84	APR 24,84	915	1200	1	47.6	0	11838	2	1	U	59	CDF	
JUN 19,84	MAY 22,84	1200	930	1	111.0	0	11867	2	1	U	99	GD	
JUL 17,84	JUN 19,84	930	925	1	141.0	0	11868	2	1	U	11	CDG	HM
AUG 14,84	JUL 17,84	925	1700	1	84.0	0	35226	2	1	U	86	ADG	
SEP 11,84	AUG 14,84	1700	1015	1	55.0	0	35227	2	1	U	90	CG	
OCT 9,84	SEP 11,84	1015	1000	1	72.1	9	35293	2	1		***	E	
NOV 6,84	OCT 9,84	1000	1450	2	75.4	9	35294	2	1		0	E	
DEC 4,84	NOV 6,84	1450	1630	3	53.2	9	35288	2	1		3	E	
JAN 2,85	DEC 4,84	1630	1137	3	59.0	0	35311	2	1	U	20	G	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM		PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L		CALCIUM MG/L
JAN 31,84	JAN 3,84	230.0	25.7		4.24	0.0818	1.40	0.55		0.13
FEB 28,84	JAN 31,84	708.0	31.0		4.25	0.0976	2.30	0.42		0.11
MAR 27,84	FEB 28,84	262.0	48.5		4.05	0.1310	4.95	0.62	G	0.41
APR 24,84	MAR 27,84	863.0	10.6		4.66	0.0432	0.95	0.07		0.05
MAY 22,84	APR 24,84	914.0	33.6		4.29	0.0862	4.35	0.52		0.50
JUN 19,84	MAY 22,84	3574.0	18.0		4.49	0.0530	2.45	0.24		0.15
JUL 17,84	JUN 19,84	538.0	19.5	U	6.51	0.0222	3.35	0.12	D	0.42
AUG 14,84	JUL 17,84	2370.0	9.5		4.90	0.0344	1.05	0.10		0.07
SEP 11,84	AUG 14,84	1609.0	22.6		4.35	0.0680	2.30	0.24		0.18
OCT 9,84	SEP 11,84	******	*****		*****	******	*****	*****		*****
NOV 6,84	OCT 9,84	0.0	*****		*****	******	*****	*****		*****
DEC 4,84	NOV 6,84	61.0	29.1		4.33	0.0772	2.25	0.54		*****
JAN 2,85	DEC 4,84	399.0	18.8		4.46	******	1.40	0.27		0.08

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOWGANDA/CUMULATIVE PRECIP. #25 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.15	*****	0.030	<T 0.005	0.080	<T 0.002	*****
FEB 28,84	JAN 31,84	0.17	0.26	<W 0.005	<T 0.005	0.070	0.002	0.012
MAR 27,84	FEB 28,84	0.33	0.51	0.080	0.060	G 0.230	0.282	0.021
APR 24,84	MAR 27,84	0.05	0.12	0.005	<T 0.010	<T 0.010	<W 0.005	<T 0.004
MAY 22,84	APR 24,84	0.16	0.90	0.085	0.075	0.070	0.575	G 0.139
JUN 19,84	MAY 22,84	0.13	0.56	0.025	0.095	0.050	0.345	0.024
JUL 17,84	JUN 19,84	U 1.40	U 2.75	D 0.080	U 1.250	U 1.290	D 0.740	D 0.047
AUG 14,84	JUL 17,84	0.11	0.34	0.010	0.050	0.025	0.130	0.022
SEP 11,84	AUG 14,84	0.11	0.26	0.020	<T 0.010	0.025	0.140	0.011
OCT 9,84	SEP 11,84	*****	*****	*****	*****	*****	*****	*****
NOV 6,84	OCT 9,84	*****	*****	*****	*****	*****	*****	*****
DEC 4,84	NOV 6,84	0.26	*****	*****	*****	*****	0.240	*****
JAN 2,85	DEC 4,84	0.17	0.13	<T 0.015	<T 0.020	0.080	0.085	<T 0.004

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.003	0.002	0.011	0.024	0.012	< 0.002	0.052
FEB 28,84	JAN 31,84	0.001	< 0.001	0.007	0.019	0.007	< 0.002	0.053
MAR 27,84	FEB 28,84	0.008	0.005	G 0.041	B 0.138	0.013	< 0.002	0.125
APR 24,84	MAR 27,84	0.001	< 0.001	0.003	0.028	0.006	< 0.002	0.031
MAY 22,84	APR 24,84	0.009	0.002	0.007	G 0.227	0.011	< 0.002	G 0.337
JUN 19,84	MAY 22,84	0.004	< 0.001	0.003	0.023	0.007	< 0.002	0.035
JUL 17,84	JUN 19,84	0.008	0.005	U 0.084	B 0.119	0.013	< 0.002	0.066
AUG 14,84	JUL 17,84	0.001	< 0.001	0.002	0.010	0.003	< 0.002	0.014
SEP 11,84	AUG 14,84	0.002	< 0.001	0.004	0.052	0.006	< 0.002	0.085
OCT 9,84	SEP 11,84	*****	*****	*****	*****	*****	*****	*****
NOV 6,84	OCT 9,84	*****	*****	*****	*****	*****	*****	*****
DEC 4,84	NOV 6,84	*****	*****	*****	*****	*****	*****	*****
JAN 2,85	DEC 4,84	0.001	0.000	0.007	0.019	0.004	< 0.000	0.047

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GOWGANDA/CUMULATIVE PRECIP. #25 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	0.007	0.0003	0.0575
FEB 28,84	JAN 31,84	0.002	< 0.0001	0.0562
MAR 27,84	FEB 28,84	0.007	0.0003	0.0891
APR 24,84	MAR 27,84	0.002	< 0.0001	0.0219
MAY 22,84	APR 24,84	0.005	< 0.0001	0.0513
JUN 19,84	MAY 22,84	< 0.001	0.0001	0.0324
JUL 17,84	JUN 19,84	U 0.023	U 0.0064	U 0.0003
AUG 14,84	JUL 17,84	< 0.001	0.0001	0.0126
SEP 11,84	AUG 14,84	< 0.002	0.0001	0.0447
OCT 9,84	SEP 11,84	*****	******	******
NOV 6,84	OCT 9,84	*****	******	******
DEC 4,84	NOV 6,84	*****	******	0.0468
JAN 2,85	DEC 4,84	0.002	0.0001	0.0347

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : KILLARNEY/CUMULATIVE PRECIP. #23 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES		SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
FEB 10,84	JAN 3,84	1600	1600	2	53.9	0	11778	2	1		69		
FEB 28,84	FEB 10,84	1600	1330	2	20.8	0	11796	2	1		58		
MAR 27,84	FEB 28,84	1330	1700	3	70.2	0	11811	2	1		72		
APR 24,84	MAR 27,84	1700	1100	1	50.9	0	11821	2	1		82		
MAY 29,84	APR 24,84	1100	1235	1	86.5	9	11835	2	1		73	CD	N
JUN 19,84	MAY 29,84	1235	1125	1	103.1	9	11849	2	1		59	AC	
JUL 17,84	JUN 19,84	1125	900	1	74.0	0	11855	2	1	U	72	CDG	
AUG 15,84	JUL 17,84	900	1335	1	65.0	0	11872	2	1		68	CD	
SEP 11,84	AUG 15,84	1335	830	1	124.0	0	35217	2	1		82		
OCT 16,84	SEP 11,84	830	1145	1	79.9	9	35249	2	1		79	CD	
NOV 6,84	OCT 16,84	1145	1030	1	97.2	9	35257	2	1		91	CD	
DEC 6,84	NOV 6,84	1030	1130	3	82.5	9	35273	2	1		69		N
JAN 2,85	DEC 6,84	1130	1000	2	123.0	0	35306	2	1	U	49	G	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM		PH LAB	TOTAL H+ TO PH8.3 MG/L		SULPHATE MG/L		NITRATE AS N MG/L		CALCIUM MG/L	
FEB 10,84	JAN 3,84	1223.0	45.0		4.06	0.1256		2.15		1.17		0.19	
FEB 28,84	FEB 10,84	398.0	G 100.0		3.62	G 0.2760		G 6.90		G 2.37		0.28	
MAR 27,84	FEB 28,84	1663.0	50.0		4.04	0.1340		4.30		0.78		0.25	
APR 24,84	MAR 27,84	1362.0	18.8		4.50	0.0574		2.00		0.18		0.26	
MAY 29,84	APR 24,84	2064.0	32.3		4.29	0.0790		3.85		0.54		0.41	
JUN 19,84	MAY 29,84	2003.0	43.0		4.13	0.1068		5.25		0.64		0.38	
JUL 17,84	JUN 19,84	1731.0	28.5	U	6.84	0.0410		4.60		B 1.43	U	0.69	
AUG 15,84	JUL 17,84	1444.0	44.0		4.09	0.1052		4.85		0.56		0.25	
SEP 11,84	AUG 15,84	3331.0	29.5		4.26	0.0816		2.90		0.35		0.10	
OCT 16,84	SEP 11,84	2075.0	38.1		4.20	0.0928		3.85		0.60		0.24	
NOV 6,84	OCT 16,84	2890.0	35.0		4.20	0.0878		3.00		0.53		0.12	
DEC 6,84	NOV 6,84	1851.0	34.2		4.24	0.0868		2.25		0.75		0.24	
JAN 2,85	DEC 6,84	1984.0	21.4		4.41	******		1.60		0.39		0.12	

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : KILLARNEY/CUMULATIVE PRECIP. #23 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
FEB 10,84	JAN 3,84	0.24	0.54	0.010	0.025	0.100	0.450	0.006
FEB 28,84	FEB 10,84	G 0.44	G 1.14	0.045	0.050	0.075	1.110	0.016
MAR 27,84	FEB 28,84	0.22	0.42	0.040	0.025	0.090	0.336	0.008
APR 24,84	MAR 27,84	0.11	0.15	0.070	0.035	0.045	0.130	0.009
MAY 29,84	APR 24,84	0.24	0.85	0.065	0.075	0.045	0.530	0.035
JUN 19,84	MAY 29,84	0.28	1.01	0.080	*****	0.145	0.795	0.050
JUL 17,84	JUN 19,84	0.22	U 3.20	U 0.180	U 0.605	0.065	U 2.900	U 0.360
AUG 15,84	JUL 17,84	0.12	0.77	0.060	0.040	0.030	0.605	0.007
SEP 11,84	AUG 15,84	0.11	0.42	0.010	0.010	0.020	0.320	0.005
OCT 16,84	SEP 11,84	0.14	0.62	0.030	0.040	0.050	0.570	<T 0.003
NOV 6,84	OCT 16,84	0.12	0.40	0.025	0.060	0.020	0.360	<T 0.002
DEC 6,84	NOV 6,84	0.18	0.36	0.030	<W 0.005	0.060	0.330	<T 0.003
JAN 2,85	DEC 6,84	0.14	0.24	<T 0.015	<T 0.015	0.065	0.185	0.006

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
FEB 10,84	JAN 3,84	0.003	U 0.072	0.014	0.035	0.010	< 0.002	0.020
FEB 28,84	FEB 10,84	0.006	< 0.001	0.021	0.080	0.027	< 0.002	0.112
MAR 27,84	FEB 28,84	0.004	< 0.001	0.008	0.065	0.008	< 0.002	0.060
APR 24,84	MAR 27,84	0.001	< 0.001	0.004	0.016	0.003	< 0.002	0.024
MAY 29,84	APR 24,84	0.006	< 0.001	0.006	0.058	0.005	< 0.002	0.058
JUN 19,84	MAY 29,84	0.006	< 0.001	0.007	0.059	0.010	< 0.002	0.072
JUL 17,84	JUN 19,84	0.005	< 0.001	0.015	0.053	0.006	< 0.002	0.046
AUG 15,84	JUL 17,84	0.003	< 0.001	0.006	0.028	0.007	< 0.002	0.026
SEP 11,84	AUG 15,84	0.002	< 0.001	L 0.007	L 0.009	L 0.004	< 0.002	L 0.013
OCT 16,84	SEP 11,84	0.002	< 0.001	0.009	0.012	0.007	< 0.002	0.018
NOV 6,84	OCT 16,84	0.001	< 0.001	0.005	0.014	0.007	< 0.002	0.015
DEC 6,84	NOV 6,84	0.002	0.001	0.008	0.081	0.009	< 0.000	0.045
JAN 2,85	DEC 6,84	0.001	0.001	0.006	0.016	0.005	< 0.000	0.021

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : KILLARNEY/CUMULATIVE PRECIP. #23

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
FEB 10,84	JAN 3,84	0.002	0.0002	0.0871
FEB 28,84	FEB 10,84	0.003	0.0004	0.2399
MAR 27,84	FEB 28,84	0.001	0.0001	0.0912
APR 24,84	MAR 27,84	0.002	0.0002	0.0316
MAY 29,84	APR 24,84	0.001	< 0.0001	0.0513
JUN 19,84	MAY 29,84	0.003	0.0002	0.0741
JUL 17,84	JUN 19,84	0.001	0.0001	U 0.0001
AUG 15,84	JUL 17,84	0.001	< 0.0001	0.0813
SEP 11,84	AUG 15,84	L< 0.001	0.0001	0.0550
OCT 16,84	SEP 11,84	0.001	0.0002	0.0631
NOV 6,84	OCT 16,84	0.002	0.0001	0.0631
DEC 6,84	NOV 6,84	0.002	0.0001	0.0575
JAN 2,85	DEC 6,84	0.002	0.0000	0.0389

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MATTAWA/CUMULATIVE PRECIP. #22 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
FEB 2,84	JAN 4,84	1420	1130	2	17.7	0	11779	2	1	33		N
FEB 28,84	FEB 2,84	1130	730	3	54.6	0	11797	2	1	70	C	
MAR 27,84	FEB 28,84	730	1630	3	40.7	9	11810	2	1	67	C	
APR 24,84	MAR 27,84	1630	1820	1	46.9	0	11823	2	1	97	C	
MAY 23,84	APR 24,84	1820	730	1	42.7	9	11839	2	1	95	MI	
JUN 19,84	MAY 23,84	730	1400	1	113.2	0	11845	2	1	U 86	GA	
JUL 19,84	JUN 19,84	1400	945	1	145.0	0	11860	2	1	83	CD	C
AUG 14,84	JUL 19,84	945	1240	1	75.0	0	11875	2	1	47	CD	N
SEP 11,84	AUG 14,84	1240	1145	1	81.0	0	35213	2	1	85	A	
OCT 9,84	SEP 11,84	1145	1330	1	76.0	0	35242	2	1	89	CD	
NOV 6,84	OCT 9,84	1330	1130	1	95.0	0	35253	2	1	86	C	
DEC 10,84	NOV 6,84	1330	1200	3	48.0	0	35279	2	1	91		NM
JAN 2,85	DEC 10,84	1200	1430	2	97.0	0	35304	2	1	67		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
FEB 2,84	JAN 4,84	191.0	53.5	3.99	0.1452	2.50	G 1.40	0.26
FEB 28,84	FEB 2,84	1245.0	37.5	4.15	0.0908	2.50	0.76	0.11
MAR 27,84	FEB 28,84	890.0	29.3	4.36	0.0820	2.35	0.61	0.34
APR 24,84	MAR 27,84	1479.0	12.4	4.62	0.0472	0.95	0.15	0.06
MAY 23,84	APR 24,84	1330.0	26.2	4.54	0.0666	4.30	0.41	0.49
JUN 19,84	MAY 23,84	3177.0	28.9	4.38	0.0656	3.15	0.35	0.17
JUL 19,84	JUN 19,84	3943.0	16.1	4.34	0.0716	2.25	0.26	0.14
AUG 14,84	JUL 19,84	1165.0	38.0	4.10	0.0962	3.55	0.45	0.18
SEP 11,84	AUG 14,84	2255.0	35.3	4.12	0.0942	3.45	0.38	0.12
OCT 9,84	SEP 11,84	2204.0	21.1	4.49	0.0574	2.15	0.31	0.14
NOV 6,84	OCT 9,84	2667.0	25.6	4.33	0.0700	2.25	0.37	0.15
DEC 10,84	NOV 6,84	1422.0	21.2	4.46	0.0594	1.40	0.40	0.06
JAN 2,85	DEC 10,84	2130.0	12.6	4.63	******	0.85	0.19	<T 0.03

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MATTAWA/CUMULATIVE PRECIP. #22 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
FEB 2,84	JAN 4,84	U 0.78	0.60	0.030	0.055	U 0.590	0.330	0.011
FEB 28,84	FEB 2,84	0.17	0.38	0.015	0.020	0.065	0.284	0.008
MAR 27,84	FEB 28,84	0.34	0.34	0.050	0.070	G 0.245	0.142	G 0.060
APR 24,84	MAR 27,84	0.03	0.13	0.010	0.025	0.020	0.030	0.007
MAY 23,84	APR 24,84	0.19	0.76	0.105	0.210	0.075	0.795	0.029
JUN 19,84	MAY 23,84	0.09	0.60	0.045	0.160	0.075	0.440	0.008
JUL 19,84	JUN 19,84	0.05	0.53	0.020	0.025	<W 0.005	0.160	0.017
AUG 14,84	JUL 19,84	0.14	0.39	0.030	0.020	0.045	0.305	0.006
SEP 11,84	AUG 14,84	0.12	0.64	0.015	0.015	0.025	0.275	0.005
OCT 9,84	SEP 11,84	0.10	0.29	0.020	0.065	0.035	0.270	<T 0.002
NOV 6,84	OCT 9,84	0.09	0.25	0.020	<T 0.005	0.020	0.220	<T 0.003
DEC 10,84	NOV 6,84	0.10	0.24	0.005	<W 0.005	0.015	0.155	<T 0.004
JAN 2,85	DEC 10,84	0.08	0.07	<T 0.010	<T 0.005	0.030	0.030	0.005

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
FEB 2,84	JAN 4,84	*****	*****	*****	*****	*****	*****	*****
FEB 28,84	FEB 2,84	0.002	0.005	0.005	0.027	0.008	< 0.002	0.036
MAR 27,84	FEB 28,84	0.013	< 0.001	0.007	U 0.330	0.011	< 0.002	U 0.356
APR 24,84	MAR 27,84	0.001	< 0.001	< 0.003	0.035	0.003	< 0.002	0.036
MAY 23,84	APR 24,84	G 0.015	< 0.001	0.007	0.152	0.008	< 0.002	G 0.142
JUN 19,84	MAY 23,84	0.004	< 0.001	0.003	0.012	0.005	< 0.002	0.019
JUL 19,84	JUN 19,84	0.002	< 0.001	0.003	0.028	0.009	< 0.002	0.023
AUG 14,84	JUL 19,84	0.002	< 0.001	0.005	0.026	0.003	< 0.002	0.020
SEP 11,84	AUG 14,84	0.002	< 0.001	0.008	0.018	0.007	< 0.002	0.021
OCT 9,84	SEP 11,84	0.002	< 0.001	0.004	0.020	0.004	< 0.002	0.023
NOV 6,84	OCT 9,84	0.001	< 0.001	0.003	0.018	0.003	< 0.002	0.020
DEC 10,84	NOV 6,84	0.002	0.001	0.008	0.057	0.010	< 0.000	0.031
JAN 2,85	DEC 10,84	0.001	0.000	0.002	0.019	0.002	< 0.000	0.014

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MATTAWA/CUMULATIVE PRECIP. #22 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
FEB 2,84	JAN 4,84	*****	******	0.1023
FEB 28,84	FEB 2,84	< 0.002	< 0.0001	0.0708
MAR 27,84	FEB 28,84	0.002	0.0001	0.0437
APR 24,84	MAR 27,84	0.001	< 0.0001	0.0240
MAY 23,84	APR 24,84	< 0.002	< 0.0001	0.0288
JUN 19,84	MAY 23,84	< 0.001	0.0001	0.0417
JUL 19,84	JUN 19,84	< 0.001	< 0.0001	0.0457
AUG 14,84	JUL 19,84	0.001	0.0001	0.0794
SEP 11,84	AUG 14,84	< 0.001	< 0.0001	0.0759
OCT 9,84	SEP 11,84	0.002	0.0001	0.0324
NOV 6,84	OCT 9,84	< 0.001	0.0001	0.0468
DEC 10,84	NOV 6,84	0.001	0.0001	0.0347
JAN 2,85	DEC 10,84	< 0.000	< 0.0000	0.0234

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MCKELLAR/CUMULATIVE PRECIP. #21 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	1330	800	2	22.1	0	11776	2	1	U 80	G	
FEB 29,84	JAN 31,84	800	800	2	94.3	0	11794	2	1	58		
MAR 27,84	FEB 29,84	900	900	3	37.9	0	11813	2	1	U 38	GD	HCM
APR 24,84	MAR 27,84	900	800	1	72.7	9	11818	2	1	79	AD	N
MAY 22,84	APR 24,84	800	800	1	50.1	9	11832	2	1	56	AC	
JUN 20,84	MAY 22,84	800	1305	1	123.8	9	11844	2	1	85	AC	
JUL 17,84	JUN 20,84	1305	810	1	165.0	0	11861	2	1	76	CAD	
AUG 14,84	JUL 17,84	810	1030	1	100.0	0	11873	2	1	U 75	CDFG	
SEP 11,84	AUG 14,84	1030	800	1	80.0	0	35214	2	1	U 87	G	
OCT 9,84	SEP 11,84	800	800	1	55.0	0	35237	2	1	82	CD	
NOV 6,84	OCT 9,84	810	800	3	132.0	0	35262	2	1	59		
DEC 4,84	NOV 6,84	810	830	3	62.9	9	35271	2	1	59		
JAN 2,85	DEC 4,84	840	830	2	133.0	0	35302	2	1	U 69	CG	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	575.0	47.2	4.00	0.1252	2.35	G 1.20	0.17
FEB 29,84	JAN 31,84	1801.0	38.8	4.07	0.1042	2.45	0.82	0.10
MAR 27,84	FEB 29,84	469.0	4.5	U 5.68	0.0220	D 0.15	0.04	0.03
APR 24,84	MAR 27,84	1885.0	14.7	4.56	0.0526	1.05	0.20	0.06
MAY 22,84	APR 24,84	911.0	49.0	4.14	0.1244	5.75	0.86	1.09
JUN 20,84	MAY 22,84	3421.0	28.0	4.49	0.0704	4.05	0.51	0.31
JUL 17,84	JUN 20,84	4083.0	29.5	4.22	0.0790	3.30	0.35	0.16
AUG 14,84	JUL 17,84	2464.0	24.4	4.46	0.0548	3.10	0.32	0.26
SEP 11,84	AUG 14,84	2271.0	24.9	4.31	0.0682	2.45	0.28	0.12
OCT 9,84	SEP 11,84	1480.0	37.0	4.22	0.0904	3.75	0.62	0.35
NOV 6,84	OCT 9,84	2569.0	31.0	4.23	0.0810	2.80	0.40	0.09
DEC 4,84	NOV 6,84	1214.0	22.9	4.47	0.0584	1.80	0.50	0.20
JAN 2,85	DEC 4,84	3004.0	15.9	4.56	0.0508	1.10	0.26	0.06

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MCKELLAR/CUMULATIVE PRECIP. #21 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	G 0.49	0.56	0.035	0.035	0.265	0.480	0.008
FEB 29,84	JAN 31,84	0.24	0.41	0.015	<T 0.010	0.170	0.372	0.006
MAR 27,84	FEB 29,84	0.19	0.14	<T 0.005	<W 0.005	0.060	0.008	0.018
APR 24,84	MAR 27,84	0.08	0.10	0.005	<T 0.010	0.065	0.025	0.015
MAY 22,84	APR 24,84	B 0.44	1.19	0.185	0.155	B 0.275	0.425	0.073
JUN 20,84	MAY 22,84	0.16	1.39	0.105	0.225	0.095	0.880	0.096
JUL 17,84	JUN 20,84	0.13	0.43	0.025	0.015	0.010	0.340	0.008
AUG 14,84	JUL 17,84	G 0.37	1.53	0.045	0.200	B 0.365	0.360	0.016
SEP 11,84	AUG 14,84	0.15	0.32	0.015	D 0.025	0.080	0.225	<T 0.002
OCT 9,84	SEP 11,84	0.14	0.64	0.075	0.055	0.070	0.450	0.016
NOV 6,84	OCT 9,84	0.11	0.31	0.015	<T 0.005	0.020	0.270	<T 0.001
DEC 4,84	NOV 6,84	0.12	0.47	0.025	<W 0.005	0.030	0.330	<T 0.002
JAN 2,85	DEC 4,84	0.14	0.13	<T 0.010	<T 0.010	0.060	0.100	<T 0.003

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.003	0.002	0.022	0.083	0.018	< 0.002	0.091
FEB 29,84	JAN 31,84	0.002	< 0.001	0.007	0.016	0.007	< 0.002	0.021
MAR 27,84	FEB 29,84	< 0.001	< 0.001	< 0.006	0.083	0.006	< 0.002	0.093
APR 24,84	MAR 27,84	< 0.001	< 0.001	< 0.003	0.009	0.004	< 0.002	0.014
MAY 22,84	APR 24,84	G 0.015	< 0.001	0.011	G 0.291	0.016	< 0.002	G 0.352
JUN 20,84	MAY 22,84	0.006	< 0.001	0.007	0.042	0.006	< 0.002	0.043
JUL 17,84	JUN 20,84	0.002	< 0.001	0.003	D 0.038	0.008	< 0.002	0.036
AUG 14,84	JUL 17,84	0.003	0.003	0.023	0.097	0.009	< 0.002	0.050
SEP 11,84	AUG 14,84	0.002	< 0.001	0.007	0.011	0.007	< 0.002	0.015
OCT 9,84	SEP 11,84	0.003	< 0.001	0.007	0.049	0.007	< 0.002	0.033
NOV 6,84	OCT 9,84	0.001	< 0.001	0.004	0.013	0.007	< 0.002	0.016
DEC 4,84	NOV 6,84	0.002	0.000	0.008	D 0.049	0.010	< 0.000	0.017
JAN 2,85	DEC 4,84	0.001	0.000	0.002	0.027	0.003	< 0.000	0.017

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MCKELLAR/CUMULATIVE PRECIP. #21 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	0.004	0.0007	0.1000
FEB 29,84	JAN 31,84	0.002	0.0002	0.0851
MAR 27,84	FEB 29,84	< 0.003	< 0.0001	U 0.0021
APR 24,84	MAR 27,84	< 0.002	< 0.0001	0.0275
MAY 22,84	APR 24,84	0.002	< 0.0001	0.0724
JUN 20,84	MAY 22,84	0.001	0.0001	0.0324
JUL 17,84	JUN 20,84	< 0.001	< 0.0001	0.0603
AUG 14,84	JUL 17,84	0.004	0.0011	0.0347
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0490
OCT 9,84	SEP 11,84	0.001	0.0001	0.0603
NOV 6,84	OCT 9,84	< 0.001	0.0001	0.0589
DEC 4,84	NOV 6,84	0.001	0.0001	0.0339
JAN 2,85	DEC 4,84	0.000	0.0001	0.0275

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : HOOMBEAM/CUMULATIVE PRECIP. #27 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
FEB 7,84	JAN 4,84	1526	1545	3	6.2	0	11782	2	1	74		
FEB 28,84	FEB 7,84	1545	1450	3	20.6	0	11800	2	1	U 7	G	N
MAR 27,84	FEB 28,84	1605	1625	3	31.0	0	11812	2	1	53		
APR 24,84	MAR 27,84	1625	1310	1	1.0	0	11822	2	1	3	AC	N
MAY 24,84	APR 24,84	1310	1458	1	40.6	0	11840	2	1	78		H
JUN 19,84	MAY 24,84	1458	1430	1	84.8	0	11852	2	1	88	C	
JUL 17,84	JUN 19,84	1430	2030	1	150.0	0	11864	2	1	78	CD	
AUG 14,84	JUL 17,84	2030	2000	1	103.8	9	11871	2	1	54	C	N
SEP 11,84	AUG 14,84	2000	1355	1	60.0	0	35216	2	1	U 57	G	
OCT 10,84	SEP 11,84	1416	1440	1	70.0	0	35234	2	1	75	C	
NOV 6,84	OCT 10,84	1440	1320	3	76.6	9	35251	2	1	76	ACDG	
DEC 4,84	NOV 6,84	1320	1340	3	52.6	9	35274	2	1	31		
JAN 3,85	NOV 6,84	1230	1415	3	59.0	0	35310	2	1	40		N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH5.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
FEB 7,84	JAN 4,84	150.0	31.3	4.35	0.0808	3.50	0.53	*****
FEB 28,84	FEB 7,84	47.0	11.8	U 6.93	0.0160	2.25	0.20	*****
MAR 27,84	FEB 28,84	542.0	25.8	4.44	0.0654	2.90	0.41	G 0.53
APR 24,84	MAR 27,84	1.0	*****	*****	******	*****	*****	*****
MAY 24,84	APR 24,84	1033.0	18.9	4.73	0.0524	3.15	0.37	G 0.77
JUN 19,84	MAY 24,84	2438.0	16.0	4.66	0.0468	1.90	0.17	0.14
JUL 17,84	JUN 19,84	3808.0	21.5	4.34	0.0656	2.70	0.24	0.14
AUG 14,84	JUL 17,84	1831.0	11.0	4.78	0.0360	1.15	0.11	0.08
SEP 11,84	AUG 14,84	1128.0	13.2	4.79	0.0394	1.70	0.16	*****
OCT 10,84	SEP 11,84	1707.0	11.5	4.74	0.0402	1.25	0.09	0.08
NOV 6,84	OCT 10,84	1908.0	10.4	4.79	0.0360	0.80	0.13	0.07
DEC 4,84	NOV 6,84	539.0	21.8	U 4.74	0.0440	2.45	0.71	U 0.94
JAN 3,85	NOV 6,84	785.0	13.7	4.67	******	1.05	0.20	0.10

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MOONBEAM/CUMULATIVE PRECIP. #27 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
FEB 7,84	JAN 4,84	G 0.48	0.62	*****	*****	*****	0.400	0.010
FEB 28,84	FEB 7,84	0.16	*****	*****	*****	*****	0.216	*****
MAR 27,84	FEB 28,84	0.21	0.23	G 0.115	0.030	0.105	0.126	0.008
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 24,84	APR 24,84	0.15	0.76	0.125	0.215	0.055	0.425	0.015
JUN 19,84	MAY 24,84	0.04	0.54	0.030	0.160	0.020	0.280	0.039
JUL 17,84	JUN 19,84	0.09	0.40	0.020	0.030	0.045	0.250	0.012
AUG 14,84	JUL 17,84	0.06	0.18	0.005	<M 0.005	0.020	0.125	<T 0.002
SEP 11,84	AUG 14,84	0.11	*****	*****	*****	*****	*****	*****
OCT 10,84	SEP 11,84	<T 0.02	0.11	0.005	<T 0.015	<T 0.010	0.090	<T 0.002
NOV 6,84	OCT 10,84	0.09	0.15	0.010	0.065	0.035	0.050	0.019
DEC 4,84	NOV 6,84	0.23	0.38	U 0.190	<T 0.010	0.085	0.295	0.006
JAN 3,85	NOV 6,84	0.33	0.16	0.020	<T 0.010	G 0.230	0.055	G 0.045

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REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
FEB 7,84	JAN 4,84	*****	*****	*****	*****	*****	*****	*****
FEB 28,84	FEB 7,84	*****	*****	*****	*****	*****	*****	*****
MAR 27,84	FEB 28,84	0.003	< 0.001	0.005	0.032	0.006	< 0.002	0.060
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 24,84	APR 24,84	G 0.014	< 0.001	0.006	G 0.261	0.009	< 0.002	G 0.402
JUN 19,84	MAY 24,84	0.004	< 0.001	0.002	0.038	0.004	< 0.002	0.051
JUL 17,84	JUN 19,84	0.003	< 0.001	0.002	0.027	0.006	< 0.002	0.036
AUG 14,84	JUL 17,84	0.001	< 0.001	0.002	0.013	0.004	< 0.002	0.007
SEP 11,84	AUG 14,84	*****	*****	*****	*****	*****	*****	*****
OCT 10,84	SEP 11,84	< 0.001	< 0.001	< 0.003	0.024	0.004	< 0.002	0.014
NOV 6,84	OCT 10,84	< 0.001	< 0.001	< 0.003	D 0.005	0.004	< 0.002	0.008
DEC 4,84	NOV 6,84	0.006	0.000	0.009	G 0.137	0.007	< 0.000	0.070
JAN 3,85	NOV 6,84	0.001	0.000	0.003	0.018	0.003	< 0.000	0.045

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MOONBEAM/CUMULATIVE PRECIP. #27

REMOVAL DATE	EXPOSURE DATE	COPPER UG/L	CADMIUM UG/L	FREE H+ UG/L
FEB 7,84	JAN 4,84	*****	******	0.0447
FEB 28,84	FEB 7,84	*****	******	U 0.0001
MAR 27,84	FEB 28,84	< 0.003	0.0001	0.0363
APR 24,84	MAR 27,84	*****	******	******
MAY 24,84	APR 24,84	< 0.002	< 0.0001	0.0186
JUN 19,84	MAY 24,84	< 0.001	0.0001	0.0219
JUL 17,84	JUN 19,84	0.001	0.0001	0.0457
AUG 14,84	JUL 17,84	0.001	< 0.0001	0.0166
SEP 11,84	AUG 14,84	*****	******	0.0162
OCT 10,84	SEP 11,84	0.001	0.0001	0.0182
NOV 6,84	OCT 10,84	< 0.002	0.0001	0.0162
DEC 4,84	NOV 6,84	0.001	0.0001	U 0.0182
JAN 3,85	NOV 6,84	0.001	< 0.0000	0.0214

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : TURKEY LAKE/CUMULATIVE PRECIP. #37

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 4,84	1100	1250	2	57.7	9	11774	2	1	53		
FEB 28,84	JAN 31,84	1250	1100	3	38.3	9	11792	2	1	74	F	
MAR 27,84	FEB 28,84	1130	1130	3	61.9	9	11815	2	1	70	FJCD	
APR 24,84	MAR 27,84	1145	1115	1	4.6	9	11817	2	1	84		
MAY 22,84	APR 24,84	1115	830	1	100.6	9	11830	2	1	60	FJ	
JUN 19,84	MAY 22,84	900	1110	1	50.7	9	11853	2	1	93	ACJ	
JUL 17,84	JUN 19,84	1110	1010	1	99.3	9	11865	2	1	89	QD	
AUG 14,84	JUL 17,84	1030	1045	1	64.7	9	11870	2	1	73	C	
SEP 11,84	AUG 14,84	1045	1515	1	164.1	9	35218	2	1	54		
OCT 9,84	SEP 11,84	1540	1305	1	110.9	9	35235	2	1	98	BCD	
OCT 20,84	OCT 9,84	1305	1305	3	56.1	9	35260	2	1	40		H
NOV 6,84	OCT 20,84	1305	1130	3	230.0	9	35259	2	1	50	CD	
DEC 4,84	NOV 6,84	1230	1130	3	111.2	9	35280	2	1	60		
JAN 1,85	DEC 4,84	1130	1200	2	161.5	9	35305	2	1	7	Q	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM		PH LAB	TOTAL H+ TO PH8.3 MG/L		SULPHATE MG/L	NITRATE AS N MG/L		CALCIUM MG/L
JAN 31,84	JAN 4,84	1010.0	14.0	D	4.68	0.0426		0.90	0.38		0.16
FEB 28,84	JAN 31,84	930.0	38.9		4.13	0.1020		3.30	0.80		0.23
MAR 27,84	FEB 28,84	1423.0	28.8		4.31	0.0818		2.70	0.42		0.19
APR 24,84	MAR 27,84	126.0	*****		4.12	0.1174		*****	*****	B	0.42
MAY 22,84	APR 24,84	1969.0	26.0		4.49	0.0640		3.70	0.48		0.66
JUN 19,84	MAY 22,84	1536.0	27.0		4.38	0.0674	D	4.30	0.54	D	0.67
JUL 17,84	JUN 19,84	2901.0	14.6		4.69	0.0390		1.80	0.27		0.19
AUG 14,84	JUL 17,84	1544.0	26.3		4.35	0.0652		3.15	0.23		0.14
SEP 11,84	AUG 14,84	2926.0	32.6		4.23	0.0820	D	3.85	0.28		0.16
OCT 9,84	SEP 11,84	3543.0	18.2		4.73	0.0512	D	2.65	0.30		0.43
OCT 20,84	OCT 9,84	734.0	20.5		4.75	0.0594		3.50	0.34	U	1.10
NOV 6,84	OCT 20,84	3775.0	22.1		4.42	0.0588		2.10	0.35		0.13
DEC 4,84	NOV 6,84	2197.0	26.8		4.38	0.0670		2.20	0.59		0.24
JAN 1,85	DEC 4,84	416.0	13.0		4.74	******		0.95	0.32		0.06

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : TURKEY LAKE/CUMULATIVE PRECIP. #37 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 4,84	0.07	0.32	0.025	<W 0.005	0.040	0.208	0.011
FEB 28,84	JAN 31,84	0.17	0.65	0.030	0.035	0.095	0.560	0.010
MAR 27,84	FEB 28,84	0.15	0.30	0.035	0.020	0.045	0.202	0.011
APR 24,84	MAR 27,84	*****	*****	B 0.125	G 0.395	G 0.180	0.130	*****
MAY 22,84	APR 24,84	0.16	0.67	0.110	0.120	0.080	0.505	0.014
JUN 19,84	MAY 22,84	0.14	D 1.19	D 0.125	0.215	0.090	D 0.675	0.050
JUL 17,84	JUN 19,84	0.04	0.41	0.030	0.015	<W 0.005	0.345	<T 0.003
AUG 14,84	JUL 17,84	0.06	0.54	0.030	<W 0.005	0.015	0.440	0.006
SEP 11,84	AUG 14,84	0.11	0.49	0.015	0.020	0.020	0.440	<T 0.004
OCT 9,84	SEP 11,84	0.04	0.37	D 0.135	0.185	0.025	0.290	0.005
OCT 20,84	OCT 9,84	0.09	0.29	U 0.220	U 0.730	0.030	0.035	0.014
NOV 6,84	OCT 20,84	0.09	0.32	0.020	0.030	0.040	0.300	<T 0.002
DEC 4,84	NOV 6,84	0.15	0.47	0.025	0.015	0.055	0.420	<T 0.004
JAN 1,85	DEC 4,84	0.14	0.41	<T 0.005	<T 0.020	<T 0.010	0.310	0.007

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 4,84	0.001	< 0.001	0.004	0.021	0.006	< 0.002	0.018
FEB 28,84	JAN 31,84	0.004	< 0.001	0.013	0.043	0.015	< 0.002	0.058
MAR 27,84	FEB 28,84	0.002	< 0.001	0.005	0.028	0.010	< 0.002	0.036
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	G 0.014	< 0.001	0.006	0.112	0.007	< 0.002	G 0.163
JUN 19,84	MAY 22,84	G 0.017	< 0.001	0.007	B 0.158	0.007	< 0.002	B 0.194
JUL 17,84	JUN 19,84	0.003	< 0.001	< 0.003	0.042	0.006	< 0.002	0.049
AUG 14,84	JUL 17,84	0.003	< 0.001	0.004	0.023	0.012	< 0.002	0.022
SEP 11,84	AUG 14,84	0.004	< 0.001	0.004	0.019	0.006	< 0.002	0.027
OCT 9,84	SEP 11,84	0.003	< 0.001	0.014	0.023	0.002	< 0.002	0.020
OCT 20,84	OCT 9,84	U 0.087	< 0.001	0.008	0.025	0.006	< 0.002	0.017
NOV 6,84	OCT 20,84	0.003	< 0.001	0.002	0.008	0.005	< 0.002	0.010
DEC 4,84	NOV 6,84	0.004	0.001	0.005	0.042	0.007	< 0.000	0.034
JAN 1,85	DEC 4,84	0.002	0.001	0.006	0.065	0.015	< 0.000	0.059

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : TURKEY LAKE/CUMULATIVE PRECIP. #37 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 11,84	JAN 4,84	< 0.002	0.0001	D 0.0209
FEB 28,84	JAN 31,84	0.003	0.0003	0.0741
MAR 27,84	FEB 28,84	< 0.002	< 0.0001	0.0490
APR 24,84	MAR 27,84	*****	******	0.0759
MAY 22,84	APR 24,84	0.001	< 0.0001	0.0324
JUN 19,84	MAY 22,84	0.003	0.0001	0.0417
JUL 17,84	JUN 19,84	< 0.001	< 0.0001	0.0204
AUG 14,84	JUL 17,84	< 0.002	< 0.0001	0.0447
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0589
OCT 9,84	SEP 11,84	0.001	0.0001	0.0186
OCT 20,84	OCT 9,84	< 0.002	0.0001	0.0178
NOV 6,84	OCT 20,84	< 0.001	0.0002	0.0380
DEC 4,84	NOV 6,84	0.001	0.0001	0.0417
JAN 1,85	DEC 4,84	0.001	0.0000	0.0182

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WHITNEY/CUMULATIVE PRECIP. #19 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	920	920	2	37.1	9	29287	2	1	***	EFIK	
MAR 5,84	JAN 31,84	920	1100	3	66.0	0	29297	2	1	U 81	F	
MAR 29,84	MAR 5,84	1100	1047	3	42.0	0	29303	2	1	84		C
APR 24,84	MAR 29,84	1047	858	3	77.0	0	29315	2	1	72	AC	
MAY 22,84	APR 24,84	858	1100	1	42.0	0	29322	2	1	U 88	ABCFI	
JUN 19,84	MAY 22,84	1100	1700	1	105.0	0	29331	2	1	79	Q	H
JUL 17,84	JUN 19,84	1700	1645	1	112.0	0	29338	2	1	89		
AUG 14,84	JUL 17,84	1645	1615	1	67.0	0	29351	2	1	89		
SEP 11,84	AUG 14,84	1615	823	1	88.0	0	29359	2	1	84		
OCT 9,84	SEP 11,84	823	1000	1	63.0	0	29367	2	1	84	CQ	
NOV 6,84	OCT 9,84	1000	1530	3	71.0	0	29378	2	1	78	Q	
DEC 4,84	NOV 6,84	1530	1330	3	75.0	0	29385	2	1	72		H
JAN 2,85	DEC 4,84	1330	930	3	94.0	0	29398	2	1	71	Q	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM		PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L		CALCIUM MG/L
JAN 31,84	JAN 3,84	******	*****		*****	******	*****	*****		*****
MAR 5,84	JAN 31,84	1755.0	20.7		4.40	0.0628	1.45	0.38		0.06
MAR 29,84	MAR 5,84	1150.0	15.6		4.29	0.0938	2.35	0.46		0.13
APR 24,84	MAR 29,84	1812.0	12.0		4.77	0.0426	1.05	0.23		0.10
MAY 22,84	APR 24,84	1210.0	27.5		4.55	0.0798	4.40	0.54		0.79
JUN 19,84	MAY 22,84	2707.0	31.0		4.55	0.0766	4.10	0.50		0.38
JUL 17,84	JUN 19,84	3267.0	28.5		4.26	0.0802	2.95	0.28		0.10
AUG 14,84	JUL 17,84	1955.0	34.4		4.25	0.0874	3.40	0.40		0.16
SEP 11,84	AUG 14,84	2411.0	30.2		4.21	0.0846	2.85	0.38		0.11
OCT 9,84	SEP 11,84	1734.0	24.3	D	4.56	0.0578	2.90	0.46		0.30
NOV 6,84	OCT 9,84	1816.0	27.8		4.25	0.0764	2.40	0.39		0.09
DEC 4,84	NOV 6,84	1766.0	19.6		4.49	0.0566	1.40	0.33		0.06
JAN 2,85	DEC 4,84	2173.0	14.8		4.50	******	0.90	0.29	<T	0.04

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WHITNEY/CUMULATIVE PRECIP. #19 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	*****	*****	*****	*****	*****	*****	*****
MAR 5,84	JAN 31,84	0.10	0.17	0.015	<T 0.005	0.050	0.132	0.005
MAR 29,84	MAR 5,84	0.15	0.21	0.030	0.020	0.070	0.188	0.010
APR 24,84	MAR 29,84	0.04	0.34	0.030	0.050	0.040	0.185	G 0.046
MAY 22,84	APR 24,84	0.20	1.15	0.140	0.190	0.120	0.765	0.074
JUN 19,84	MAY 22,84	0.14	0.92	0.080	0.185	0.055	0.655	0.046
JUL 17,84	JUN 19,84	0.05	0.27	0.025	0.015	<T 0.010	0.245	<T 0.002
AUG 14,84	JUL 17,84	0.08	0.52	0.040	0.020	0.020	0.365	0.012
SEP 11,84	AUG 14,84	0.12	0.27	0.010	<T 0.005	0.010	0.220	<T 0.002
OCT 9,84	SEP 11,84	B 0.79	0.96	0.050	B 0.755	G 0.350	0.535	B 0.128
NOV 6,84	OCT 9,84	0.10	0.21	0.015	<W 0.005	0.020	0.170	<T 0.001
DEC 4,84	NOV 6,84	0.11	0.16	0.005	<W 0.005	<T 0.005	0.140	<T 0.002
JAN 2,85	DEC 4,84	0.09	0.09	<T 0.010	<T 0.005	<T 0.015	0.050	0.005

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	*****	*****	*****	*****	*****	*****	*****
MAR 5,84	JAN 31,84	0.001	< 0.001	0.005	0.023	0.004	< 0.002	0.015
MAR 29,84	MAR 5,84	0.002	< 0.001	0.008	0.016	0.004	< 0.002	0.024
APR 24,84	MAR 29,84	0.002	< 0.001	0.003	0.015	0.003	< 0.002	0.019
MAY 22,84	APR 24,84	G 0.022	< 0.001	0.013	G 0.255	0.007	< 0.002	G 0.281
JUN 19,84	MAY 22,84	0.007	< 0.001	0.005	0.080	0.011	< 0.002	0.094
JUL 17,84	JUN 19,84	0.001	< 0.001	< 0.003	0.018	0.006	< 0.002	0.009
AUG 14,84	JUL 17,84	0.002	< 0.001	0.003	0.021	0.006	< 0.002	0.016
SEP 11,84	AUG 14,84	0.001	< 0.001	0.004	0.013	0.005	< 0.002	0.020
OCT 9,84	SEP 11,84	0.004	< 0.001	0.006	0.039	0.004	< 0.002	0.031
NOV 6,84	OCT 9,84	0.002	< 0.001	0.002	0.007	0.003	< 0.002	0.012
DEC 4,84	NOV 6,84	0.001	< 0.000	0.003	0.012	0.006	< 0.000	0.023
JAN 2,85	DEC 4,84	< 0.001	0.000	0.001	0.022	0.003	< 0.000	0.022

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WHITNEY/CUMULATIVE PRECIP. #19 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	*****	******	******
MAR 5,84	JAN 31,84	< 0.002	< 0.0001	0.0398
MAR 29,84	MAR 5,84	0.002	0.0001	0.0513
APR 24,84	MAR 29,84	0.002	< 0.0001	0.0170
MAY 22,84	APR 24,84	0.002	0.0001	0.0282
JUN 19,84	MAY 22,84	0.002	0.0001	0.0282
JUL 17,84	JUN 19,84	0.001	0.0001	0.0550
AUG 14,84	JUL 17,84	< 0.002	< 0.0001	0.0562
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0617
OCT 9,84	SEP 11,84	0.001	0.0001	D 0.0275
NOV 6,84	OCT 9,84	< 0.002	0.0001	0.0562
DEC 4,84	NOV 6,84	0.001	0.0001	0.0324
JAN 2,85	DEC 4,84	< 0.000	0.0000	0.0316

PART VII

NORTHWESTERN REGION

CUMULATIVE PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORION/CUMULATIVE PRECIP. #31 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	1015	915	2	24.6	0	13067	2	1	63	C	
FEB 28,84	JAN 31,84	915	915	3	36.2	0	13069	2	1	63	C	
MAR 27,84	FEB 28,84	915	900	3	21.5	0	13072	2	1	91	CD	
APR 24,84	MAR 27,84	900	900	4	1.1	0	34031	2	1	U 0	AK	
MAY 22,84	APR 24,84	900	920	1	74.6	0	13075	2	1	U 74	ACF	H
JUN 19,84	MAY 22,84	920	900	1	87.7	0	13077	2	1	79	CADQ	H
JUL 17,84	JUN 19,84	900	1043	1	98.0	0	13079	2	1	79	C	
AUG 14,84	JUL 17,84	1043	912	1	136.0	0	13081	2	1	84		
SEP 11,84	AUG 14,84	912	920	1	68.0	0	13083	2	1	91	C	
OCT 9,84	SEP 11,84	920	930	1	44.0	0	13085	2	1	84	CD	C
NOV 6,84	OCT 9,84	930	900	3	100.0	0	13087	2	1	81	C	
DEC 4,84	NOV 6,84	900	920	3	41.5	0	13089	2	1	85		
JAN 2,85	DEC 4,84	920	930	3	79.6	0	13091	2	1	87		H

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	505.0	10.1	4.80	0.0394	0.60	0.19	0.10
FEB 28,84	JAN 31,84	750.0	33.5	4.13	0.0946	2.95	0.55	0.10
MAR 27,84	FEB 28,84	641.0	18.3	4.53	0.0526	1.45	0.38	0.20
APR 24,84	MAR 27,84	0.0	*****	*****	******	*****	*****	*****
MAY 22,84	APR 24,84	1813.0	19.7	5.36	0.0380	G 3.55	G 0.47	G 1.08
JUN 19,84	MAY 22,84	2274.0	8.5	5.40	0.0226	1.40	0.26	0.25
JUL 17,84	JUN 19,84	2533.0	5.8	4.97	0.0260	0.60	0.09	0.07
AUG 14,84	JUL 17,84	3747.0	8.0	4.96	0.0344	0.75	0.09	0.06
SEP 11,84	AUG 14,84	2018.0	5.8	5.46	0.0226	0.75	0.15	0.21
OCT 9,84	SEP 11,84	1214.0	6.5	5.34	0.0290	0.85	0.10	0.14
NOV 6,84	OCT 9,84	2640.0	G 23.9	4.35	B 0.0672	2.30	0.34	0.06
DEC 4,84	NOV 6,84	1158.0	31.5	4.33	0.0764	2.45	0.75	0.25
JAN 2,85	DEC 4,84	2252.0	8.3	4.88	******	0.65	0.11	<T 0.04

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORION/CUMULATIVE PRECIP. #31 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.13	0.09	0.025	<T 0.005	0.110	0.020	0.026
FEB 28,84	JAN 31,84	0.15	0.44	0.015	<T 0.010	0.100	0.372	0.016
MAR 27,84	FEB 28,84	0.14	0.25	0.045	<T 0.010	0.100	0.158	0.018
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.22	0.75	0.140	0.110	0.140	0.555	0.025
JUN 19,84	MAY 22,84	0.08	0.58	0.050	0.165	B 0.200	0.390	0.044
JUL 17,84	JUN 19,84	0.03	0.11	0.015	0.025	0.050	0.070	<T 0.004
AUG 14,84	JUL 17,84	0.04	0.13	0.020	0.020	<W 0.005	0.145	<T 0.003
SEP 11,84	AUG 14,84	0.04	0.28	0.035	0.030	0.020	0.185	0.007
OCT 9,84	SEP 11,84	0.03	0.22	0.020	0.020	<T 0.010	0.160	<T 0.003
NOV 6,84	OCT 9,84	0.06	0.26	0.015	<W 0.005	<T 0.010	0.285	<T 0.001
DEC 4,84	NOV 6,84	0.16	0.69	0.020	<W 0.005	0.060	0.585	0.008
JAN 2,85	DEC 4,84	0.09	0.07	<T 0.005	<T 0.010	0.035	0.045	<T 0.003

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	< 0.001	0.007	< 0.006	0.014	0.004	< 0.002	0.027
FEB 28,84	JAN 31,84	0.002	< 0.001	0.005	0.010	0.008	< 0.002	0.036
MAR 27,84	FEB 28,84	0.003	< 0.001	0.006	0.039	0.005	< 0.002	0.042
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.019	< 0.001	0.004	0.134	0.004	< 0.002	0.184
JUN 19,84	MAY 22,84	0.005	< 0.001	< 0.003	0.052	0.001	< 0.002	0.060
JUL 17,84	JUN 19,84	0.001	< 0.001	0.002	0.022	0.008	< 0.002	0.025
AUG 14,84	JUL 17,84	0.001	< 0.001	0.002	0.016	0.004	< 0.002	0.014
SEP 11,84	AUG 14,84	0.003	< 0.001	0.006	0.045	0.005	< 0.002	0.034
OCT 9,84	SEP 11,84	0.002	< 0.001	< 0.004	0.025	0.003	< 0.002	0.039
NOV 6,84	OCT 9,84	< 0.001	< 0.001	0.002	0.013	0.004	< 0.002	0.021
DEC 4,84	NOV 6,84	0.002	0.000	0.009	0.020	0.007	< 0.000	0.026
JAN 2,85	DEC 4,84	< 0.001	< 0.000	0.008	0.004	0.010	< 0.000	0.011

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORION/CUMULATIVE PRECIP. #31

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.003	< 0.0001	0.0158
FEB 28,84	JAN 31,84	< 0.002	0.0001	0.0741
MAR 27,84	FEB 28,84	< 0.003	< 0.0001	0.0295
APR 24,84	MAR 27,84	*****	******	******
MAY 22,84	APR 24,84	0.003	0.0001	0.0044
JUN 19,84	MAY 22,84	< 0.001	< 0.0001	0.0040
JUL 17,84	JUN 19,84	0.001	< 0.0001	0.0107
AUG 14,84	JUL 17,84	0.001	< 0.0001	0.0110
SEP 11,84	AUG 14,84	< 0.001	0.0001	0.0035
OCT 9,84	SEP 11,84	< 0.002	< 0.0001	0.0046
NOV 6,84	OCT 9,84	0.002	0.0001	0.0447
DEC 4,84	NOV 6,84	0.001	0.0001	0.0468
JAN 2,85	DEC 4,84	0.000	< 0.0000	0.0132

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EAR FALL'S/CUMULATIVE PRECIP. #35 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 4,84	900	900	2	17.2	0	13565	2	1	54	C	
FEB 28,84	JAN 31,84	900	910	3	31.1	0	13566	2	1	62	C	
MAR 27,84	FEB 28,84	910	905	3	11.1	0	13567	2	1	84	CD	
APR 24,84	MAR 27,84	905	850	1	2.5	0	13569	2	1	72	C	
MAY 22,84	APR 24,84	850	900	1	123.6	0	13572	2	1	61	AC	
JUN 19,84	MAY 22,84	900	900	1	90.0	0	13574	2	1	78	CQ	
JUL 17,84	JUN 19,84	900	900	1	75.0	0	13575	2	1	U 86	CG	H
AUG 14,84	JUL 17,84	900	856	1	85.0	0	13576	2	1	82	C	HC
SEP 11,84	AUG 14,84	856	900	1	43.0	0	13577	2	1	U 77	CQFJ	H
OCT 10,84	SEP 11,84	900	900	3	37.0	0	13578	2	1	64	CD	
NOV 8,84	OCT 10,84	900	900	3	129.7	0	13579	2	1	U 22	CFJ	
DEC 4,84	NOV 8,84	900	900	2	49.6	0	13580	2	1	45		N
JAN 2,85	DEC 4,84	900	900	2	67.5	0	13581	2	1	34	C	N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 4,84	307.0	11.8	4.71	0.0380	0.80	0.19	0.10
FEB 28,84	JAN 31,84	634.0	19.8	4.46	0.0572	1.55	0.55	0.23
MAR 27,84	FEB 28,84	305.0	12.0	5.03	0.0324	1.05	0.33	0.21
APR 24,84	MAR 27,84	59.0	G 37.2	U 7.37	0.0250	G 5.80	1.03	*****
MAY 22,84	APR 24,84	2464.0	8.2	*****	0.0316	1.50	0.15	0.57
JUN 19,84	MAY 22,84	2299.0	6.5	5.43	0.0224	0.95	0.20	0.00
JUL 17,84	JUN 19,84	2098.0	6.7	5.03	0.0248	0.85	0.13	0.22
AUG 14,84	JUL 17,84	2276.0	7.0	5.10	0.0314	0.60	0.09	0.08
SEP 11,84	AUG 14,84	1079.0	8.8	5.94	0.0256	1.40	0.29	0.42
OCT 10,84	SEP 11,84	778.0	12.8	U 6.44	0.0234	2.10	0.44	G 0.76
NOV 8,84	OCT 10,84	934.0	11.9	U 4.95	0.0380	1.20	0.36	0.19
DEC 4,84	NOV 8,84	735.0	23.3	4.47	0.0602	1.65	0.58	0.22
JAN 2,85	DEC 4,84	760.0	6.3	5.18	0.0248	0.40	0.17	0.10

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EAR FALL'S/CUMULATIVE PRECIP. #35 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 4,84	0.27	0.19	0.025	<T 0.015	0.210	<T 0.002	0.027
FEB 28,84	JAN 31,84	0.14	0.37	0.020	<T 0.010	0.115	0.322	0.018
MAR 27,84	FEB 28,84	0.27	*****	0.035	<T 0.010	0.195	0.254	*****
APR 24,84	MAR 27,84	G 0.73	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.19	0.48	0.105	0.070	0.135	0.200	0.033
JUN 19,84	MAY 22,84	0.04	0.37	0.000	0.000	0.000	0.240	0.015
JUL 17,84	JUN 19,84	0.06	0.18	0.040	0.090	<W 0.025	0.130	0.006
AUG 14,84	JUL 17,84	0.03	0.13	0.020	0.025	<W 0.005	0.145	0.005
SEP 11,84	AUG 14,84	0.08	0.73	0.085	0.085	0.030	0.435	0.030
OCT 10,84	SEP 11,84	0.12	0.71	0.075	0.080	0.055	0.600	0.017
NOV 8,84	OCT 10,84	0.08	0.39	0.035	0.025	0.105	0.300	0.010
DEC 4,84	NOV 8,84	0.12	0.44	0.015	<W 0.005	0.050	0.390	0.007
JAN 2,85	DEC 4,84	0.09	0.14	<T 0.010	<T 0.010	0.045	0.090	0.008

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 4,84	0.002	0.002	0.010	0.039	0.005	< 0.002	0.054
FEB 28,84	JAN 31,84	0.002	< 0.001	0.008	0.042	0.007	< 0.002	0.052
MAR 27,84	FEB 28,84	0.003	< 0.001	0.008	B 0.212	0.006	< 0.002	G 0.188
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.011	< 0.001	0.003	0.239	0.006	< 0.002	G 0.345
JUN 19,84	MAY 22,84	0.004	< 0.001	0.002	0.054	0.001	< 0.002	0.055
JUL 17,84	JUN 19,84	0.002	< 0.001	< 0.003	0.020	0.002	< 0.002	0.019
AUG 14,84	JUL 17,84	0.002	< 0.001	< 0.003	0.016	0.003	< 0.002	0.010
SEP 11,84	AUG 14,84	0.009	< 0.001	0.005	0.166	0.003	< 0.002	0.232
OCT 10,84	SEP 11,84	0.013	< 0.001	0.005	0.151	0.004	< 0.002	0.203
NOV 8,84	OCT 10,84	0.005	< 0.001	0.009	D 0.098	D 0.009	< 0.002	0.073
DEC 4,84	NOV 8,84	0.002	0.001	0.005	0.028	0.008	< 0.000	0.034
JAN 2,85	DEC 4,84	0.001	0.000	0.003	0.038	0.003	< 0.000	0.020

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EAR FALL'S/CUMULATIVE PRECIP. #35 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 4,84	< 0.004	0.0002	0.0195
FEB 28,84	JAN 31,84	0.002	0.0002	0.0347
MAR 27,84	FEB 28,84	< 0.004	< 0.0001	0.0093
APR 24,84	MAR 27,84	*****	******	U 0.0000
MAY 22,84	APR 24,84	0.001	< 0.0001	******
JUN 19,84	MAY 22,84	0.001	0.0001	0.0037
JUL 17,84	JUN 19,84	< 0.001	< 0.0001	0.0093
AUG 14,84	JUL 17,84	0.001	< 0.0001	0.0079
SEP 11,84	AUG 14,84	0.001	0.0001	0.0011
OCT 10,84	SEP 11,84	0.003	0.0001	U 0.0004
NOV 8,84	OCT 10,84	U 0.047	0.0005	U 0.0112
DEC 4,84	NOV 8,84	0.002	0.0002	0.0339
JAN 2,85	DEC 4,84	0.001	0.0001	0.0066

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EXP. LAKES AREA/CUMULATIVE PRECIP. #34 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 08-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	800	815	2	25.1	9	13178	2	1	35	C	N
FEB 28,84	FEB 3,84	800	800	3	24.3	9	13179	2	1	61	CF	
MAR 27,84	FEB 28,84	800	802	3	13.0	0	13180	2	1	33	CD	N
APR 24,84	MAR 27,84	802	800	1	5.2	9	13182	2	1	19	C	
MAY 22,84	APR 24,84	800	800	3	49.1	0	13183	2	1	U 78	ACFJ	HM
JUN 19,84	MAY 22,84	800	800	1	82.0	0	13184	2	1	U 66	F C	H
JUL 17,84	JUN 19,84	800	1000	1	72.0	0	13185	2	1	U 84	ADFJ	
AUG 14,84	JUL 17,84	1000	800	1	28.0	0	13186	2	1	90	AC	H
SEP 11,84	AUG 14,84	800	800	1	58.3	0	13187	2	1	82		
OCT 9,84	SEP 11,84	800	800	3	23.9	0	13188	2	1	U 52	CFJ	
NOV 6,84	OCT 9,84	800	800	3	145.3	0	13189	2	1	U 60	CFGJ	CH
DEC 4,84	NOV 6,84	800	800	3	31.3	9	13191	2	1	96		
JAN 2,85	DEC 4,84	800	800	3	41.5	0	13192	2	1	40		N

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	287.0	11.6	4.77	0.0410	0.80	0.25	0.17
FEB 28,84	FEB 3,84	489.0	29.9	4.28	0.0778	2.70	D 0.77	0.29
MAR 27,84	FEB 28,84	140.0	G 43.0	4.29	0.0926	G 5.45	0.95	0.63
APR 24,84	MAR 27,84	33.0	*****	U 3.65	U 0.3200	*****	*****	*****
MAY 22,84	APR 24,84	1254.0	21.5	U 6.77	0.0336	3.10	0.42	U 2.71
JUN 19,84	MAY 22,84	1781.0	8.6	5.47	0.0248	1.30	0.26	0.30
JUL 17,84	JUN 19,84	1984.0	9.7	5.31	0.0248	D 1.30	0.26	0.33
AUG 14,84	JUL 17,84	823.0	D 13.0	D 5.90	D 0.0256	1.70	D 0.43	D 0.54
SEP 11,84	AUG 14,84	1564.0	9.5	U 6.63	0.0238	1.50	0.22	0.35
OCT 9,84	SEP 11,84	409.0	15.8	U 6.71	0.0246	2.85	G 0.49	U 1.20
NOV 6,84	OCT 9,84	2831.0	2.1	5.76	0.0184	0.10	<W 0.01	0.04
DEC 4,84	NOV 6,84	981.0	23.9	4.82	0.0518	2.25	0.73	D 0.68
JAN 2,85	DEC 4,84	552.0	9.8	4.80	0.0348	0.60	0.19	0.09

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME = EXP. LAKES AREA/CUMULATIVE PRECIP. #34 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.15	0.21	0.035	<T 0.015	0.150	0.030	0.034
FEB 28,84	FEB 3,84	0.15	D 0.75	D 0.030	0.020	0.165	D 0.610	0.023
MAR 27,84	FEB 28,84	0.35	*****	G 0.100	0.040	G 0.340	U 1.240	*****
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	G 0.36	1.09	U 0.320	0.210	G 0.310	0.560	0.081
JUN 19,84	MAY 22,84	0.08	0.54	0.045	0.110	0.035	0.365	0.031
JUL 17,84	JUN 19,84	0.05	D 0.44	0.075	0.020	0.015	0.285	0.010
AUG 14,84	JUL 17,84	0.08	0.75	D 0.120	D 0.085	0.020	D 0.560	0.019
SEP 11,84	AUG 14,84	0.06	0.81	0.080	0.030	<T 0.010	G 0.685	0.010
OCT 9,84	SEP 11,84	0.10	0.90	U 0.220	0.115	0.040	0.595	D 0.036
NOV 6,84	OCT 9,84	<T 0.02	0.07	0.015	<T 0.010	<W 0.005	0.025	<T 0.003
DEC 4,84	NOV 6,84	G 0.59	1.35	D 0.085	0.060	0.125	0.780	0.022
JAN 2,85	DEC 4,84	0.11	0.13	<T 0.010	<T 0.005	0.065	0.030	0.012

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.002	0.004	0.011	0.031	0.004	< 0.002	0.051
FEB 28,84	FEB 3,84	0.005	< 0.001	0.013	0.043	0.009	< 0.002	0.071
MAR 27,84	FEB 28,84	*****	*****	*****	*****	*****	*****	*****
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	U 0.048	0.001	0.014	U 1.134	D 0.013	0.002	U 1.622
JUN 19,84	MAY 22,84	0.006	< 0.001	0.004	0.065	0.001	< 0.002	0.075
JUL 17,84	JUN 19,84	0.005	< 0.001	0.003	D 0.059	0.013	< 0.002	0.052
AUG 14,84	JUL 17,84	0.015	< 0.001	< 0.004	0.150	0.011	< 0.002	0.144
SEP 11,84	AUG 14,84	0.005	< 0.001	0.004	0.068	D 0.015	< 0.002	0.078
OCT 9,84	SEP 11,84	U 0.041	< 0.001	0.016	0.280	D 0.017	< 0.002	G 0.352
NOV 6,84	OCT 9,84	< 0.001	< 0.001	< 0.003	0.027	0.001	< 0.002	0.062
DEC 4,84	NOV 6,84	U 0.032	0.001	0.011	0.033	0.007	< 0.000	0.077
JAN 2,85	DEC 4,84	< 0.001	< 0.000	0.005	0.021	0.008	< 0.000	0.031

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : EXP. LAKES AREA/CUMULATIVE PRECIP. 834

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.004	0.0002	0.0170
FEB 28,84	FEB 3,84	0.002	U 0.0012	0.0525
MAR 27,84	FEB 28,84	*****	******	0.0513
APR 24,84	MAR 27,84	*****	******	U 0.2239
MAY 22,84	APR 24,84	0.003	0.0002	U 0.0002
JUN 19,84	MAY 22,84	0.001	0.0001	0.0034
JUL 17,84	JUN 19,84	< 0.002	0.0001	0.0049
AUG 14,84	JUL 17,84	< 0.002	< 0.0001	D 0.0013
SEP 11,84	AUG 14,84	< 0.002	0.0001	U 0.0002
OCT 9,84	SEP 11,84	< 0.003	0.0002	U 0.0002
NOV 6,84	OCT 9,84	< 0.001	< 0.0001	0.0017
DEC 4,84	NOV 6,84	0.002	U 0.0022	0.0151
JAN 2,85	DEC 4,84	< 0.001	0.0002	0.0158

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GERALDTON/CUMULATIVE PRECIP. #30 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	1000	1000	2	19.1	0	13312	2	1	42	C	NHH
FEB 28,84	JAN 31,84	1000	935	2	20.1	0	13314	2	1	72	C	
MAR 27,84	FEB 28,84	1000	945	2	26.4	0	13315	2	1	62	CD	
APR 24,84	MAR 27,84	945	1000	1	2.3	9	13316	2	1	100	C	
MAY 22,84	APR 24,84	1000	1000	1	73.0	9	13317	2	1	59	C	N
JUN 19,84	MAY 22,84	1000	1020	1	183.6	0	13318	2	1	U 48	CG	
JUL 17,84	JUN 19,84	1020	1015	1	143.0	0	13319	2	1	78	AC	
AUG 14,84	JUL 17,84	1015	915	1	97.0	0	13321	2	1	69	C	
SEP 11,84	AUG 14,84	915	1000	1	43.0	0	13322	2	1	78	A	
OCT 9,84	SEP 11,84	1000	1000	3	57.0	0	13323	2	1	74		
NOV 6,84	OCT 9,84	1000	900	3	69.3	9	13324	2	1	65	GG	HC
DEC 4,84	NOV 6,84	900	1100	2	48.6	0	13325	2	1	U 67	DFG	
JAN 2,85	DEC 4,84	1100	1320	2	91.6	0	13326	2	1	67		

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	262.0	5.3	4.95	0.0352	0.50	<N 0.01	0.06
FEB 28,84	JAN 31,84	475.0	20.9	4.39	0.0650	1.70	0.49	0.08
MAR 27,84	FEB 28,84	539.0	12.0	4.72	0.0400	1.05	0.14	0.12
APR 24,84	MAR 27,84	75.0	13.6 U	6.86	0.0202	2.20	<N 0.01	*****
MAY 22,84	APR 24,84	1410.0	G 33.0 U	*****	B 0.0598	G 3.70	0.35	U 2.17
JUN 19,84	MAY 22,84	2898.0	8.1	4.88	0.0336	1.35	0.20	0.20
JUL 17,84	JUN 19,84	3629.0	4.0	5.15	0.0288	0.55	<N 0.01	0.04
AUG 14,84	JUL 17,84	2190.0	8.5	4.96	0.0340	0.80	0.15	0.13
SEP 11,84	AUG 14,84	1091.0	7.4	5.32	0.0238	1.05	0.16	0.23
OCT 9,84	SEP 11,84	1382.0	11.1	4.85	0.0366	1.40	0.15	0.24
NOV 6,84	OCT 9,84	1475.0	7.0	5.33	0.0306	1.00	0.02	0.16
DEC 4,84	NOV 6,84	1063.0	22.7	4.46	0.0648	1.65	0.44	0.11
JAN 2,85	DEC 4,84	1995.0	8.4	4.83	******	0.60	0.10	<T 0.02

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GERALDTON/CUMULATIVE PRECIP. 830 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.23	0.23	0.015	<W 0.005	0.195	<W 0.002	0.047
FEB 28,84	JAN 31,84	0.15	0.31	0.015	<T 0.005	0.115	0.246	0.017
MAR 27,84	FEB 28,84	0.14	0.10	0.020	<W 0.005	0.100	0.036	0.019
APR 24,84	MAR 27,84	G 0.89	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	U 0.37	U 5.75	U 0.295	U 0.375	U 0.410	U 2.050	U 0.550
JUN 19,84	MAY 22,84	0.07	0.34	0.030	0.070	0.015	0.210	0.012
JUL 17,84	JUN 19,84	0.08	0.15	0.015	0.070	<W 0.005	0.005	0.011
AUG 14,84	JUL 17,84	0.04	0.15	0.025	0.025	0.010	0.170	0.006
SEP 11,84	AUG 14,84	0.06	0.38	0.040	0.020	<T 0.010	0.240	0.008
OCT 9,84	SEP 11,84	0.04	0.27	0.020	<T 0.015	<T 0.005	0.160	<T 0.003
NOV 6,84	OCT 9,84	0.06	D 1.04	0.025	0.050	0.135	0.090	0.010
DEC 4,84	NOV 6,84	0.10	0.30	0.010	0.020	0.025	0.270	0.005
JAN 2,85	DEC 4,84	0.06	0.06	<W 0.005	<T 0.010	<W 0.010	0.040	0.005

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	< 0.001	U 0.026	< 0.010	0.031	0.005	< 0.002	0.046
FEB 28,84	JAN 31,84	< 0.001	< 0.001	0.004	0.018	0.003	< 0.002	0.043
MAR 27,84	FEB 28,84	< 0.001	< 0.001	0.005	0.025	0.005	< 0.002	0.033
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.006	< 0.001	0.016	0.261	0.007	< 0.002	U 0.330
JUN 19,84	MAY 22,84	0.002	< 0.001	< 0.003	0.013	0.002	< 0.002	0.019
JUL 17,84	JUN 19,84	< 0.001	< 0.001	< 0.003	0.007	0.001	< 0.002	0.007
AUG 14,84	JUL 17,84	0.002	< 0.001	0.003	0.008	0.004	< 0.002	0.008
SEP 11,84	AUG 14,84	0.004	< 0.001	0.006	0.032	0.002	< 0.002	0.045
OCT 9,84	SEP 11,84	0.003	< 0.001	0.008	0.028	0.002	< 0.002	0.035
NOV 6,84	OCT 9,84	0.001	< 0.001	0.013	0.006	0.003	< 0.002	0.026
DEC 4,84	NOV 6,84	0.001	< 0.000	0.006	0.014	0.007	< 0.000	0.026
JAN 2,85	DEC 4,84	< 0.001	< 0.000	0.007	0.005	0.001	< 0.000	0.007

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : GERALDTON/CUMULATIVE PRECIP. #30 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.005	0.0001	0.0112
FEB 28,84	JAN 31,84	0.003	0.0001	0.0407
MAR 27,84	FEB 28,84	< 0.003	< 0.0001	0.0191
APR 24,84	MAR 27,84	******	******	U 0.0001
MAY 22,84	APR 24,84	0.001	0.0003	U ******
JUN 19,84	MAY 22,84	< 0.001	0.0001	0.0132
JUL 17,84	JUN 19,84	0.001	< 0.0001	0.0071
AUG 14,84	JUL 17,84	0.002	< 0.0001	0.0110
SEP 11,84	AUG 14,84	< 0.002	0.0001	0.0048
OCT 9,84	SEP 11,84	< 0.002	< 0.0001	0.0141
NOV 6,84	OCT 9,84	< 0.002	0.0002	0.0047
DEC 4,84	NOV 6,84	0.001	0.0001	0.0347
JAN 2,85	DEC 4,84	0.000	< 0.0000	0.0148

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LAC LA CROIX/CUMULATIVE PRECIP. #33 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	900	900	3	11.9	0	95058	2	1	68	CD	
FEB 28,84	JAN 31,84	900	900	3	24.4	0	95057	2	1	89	CD	
MAR 27,84	FEB 28,84	900	900	2	8.3	0	95060	2	1	23	C	N
APR 24,84	MAR 27,84	900	900	4	0.5	0	95061	2	1	U 0	K	
MAY 22,84	APR 24,84	900	800	1	52.7	0	95063	2	1	82	C	H
JUN 19,84	MAY 22,84	900	900	1	118.4	0	95064	2	1	64	C	
JUL 17,84	JUN 19,84	900	900	1	85.0	0	95065	2	1	U 91	CG	HM
AUG 14,84	JUL 17,84	900	900	1	48.0	0	95067	2	1	U 19	G	
SEP 11,84	AUG 14,84	900	900	1	34.0	0	95068	2	1	U 39	BQG	
OCT 9,84	SEP 11,84	900	900	1	46.0	0	95069	2	1	36	BCB	N
NOV 6,84	OCT 9,84	900	900	3	59.7	0	95070	2	1	U 81	CF	
JAN 2,85	NOV 6,84	900	900	2	95.0	0	95072	2	1	U 69	G	H

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	265.0	18.3	4.42	0.0572	0.85	0.42	0.10
FEB 28,84	JAN 31,84	709.0	19.5	4.46	0.0572	1.65	0.46	0.20
MAR 27,84	FEB 28,84	63.0	G 47.7	4.05	G 0.1302	3.15	G 1.17	*****
APR 24,84	MAR 27,84	0.0	*****	*****	******	*****	*****	*****
MAY 22,84	APR 24,84	1410.0	12.5	U 6.38	0.0242	2.10	0.37	U 1.05
JUN 19,84	MAY 22,84	2476.0	10.6	4.91	0.0328	1.40	0.28	0.24
JUL 17,84	JUN 19,84	2522.0	8.1	5.15	0.0328	0.85	0.16	0.18
AUG 14,84	JUL 17,84	310.0	9.5	U 5.05	0.0312	1.25	0.21	0.20
SEP 11,84	AUG 14,84	436.0	5.8	U 5.75	0.0218	0.80	0.18	0.23
OCT 9,84	SEP 11,84	552.0	11.3	4.75	0.0380	1.10	0.16	0.13
NOV 6,84	OCT 9,84	1587.0	14.2	U 4.82	0.0390	1.60	0.34	U 0.38
JAN 2,85	NOV 6,84	2135.0	18.9	U 5.93	******	0.60	0.35	0.10

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LAC LA CROIX/CUMULATIVE PRECIP. 833 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.20	*****	0.020	<T 0.010	0.160	0.008	*****
FEB 28,84	JAN 31,84	0.10	0.30	0.020	0.020	0.100	0.268	0.005
MAR 27,84	FEB 28,84	G 0.91	*****	*****	*****	*****	*****	*****
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.19	0.67	0.130	0.095	0.130	0.470	0.028
JUN 19,84	MAY 22,84	0.03	0.40	0.040	0.040	<W 0.005	0.310	<T 0.004
JUL 17,84	JUN 19,84	0.04	0.18	0.045	0.110	0.080	0.195	0.008
AUG 14,84	JUL 17,84	0.09	0.70	0.035	0.045	U 0.045	0.265	0.020
SEP 11,84	AUG 14,84	0.09	0.81	0.040	0.065	0.030	0.255	0.034
OCT 9,84	SEP 11,84	0.05	0.20	0.020	<T 0.020	<T 0.015	0.100	0.006
NOV 6,84	OCT 9,84	0.07	0.36	0.030	0.030	0.040	0.285	0.007
JAN 2,85	NOV 6,84	U 2.60	0.80	0.045	U 2.500	U 1.350	0.030	0.019

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.003	0.001	0.006	0.033	0.004	< 0.002	0.048
FEB 28,84	JAN 31,84	0.002	< 0.001	0.006	0.024	0.004	< 0.002	0.044
MAR 27,84	FEB 28,84	*****	*****	*****	*****	*****	*****	*****
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.016	< 0.001	0.004	U 0.399	0.005	< 0.002	U 0.623
JUN 19,84	MAY 22,84	0.007	< 0.001	0.004	D 0.183	D 0.009	< 0.002	D 0.195
JUL 17,84	JUN 19,84	0.003	< 0.001	< 0.003	0.029	0.004	< 0.002	0.030
AUG 14,84	JUL 17,84	0.005	< 0.001	U 0.027	0.099	0.006	< 0.002	U 0.297
SEP 11,84	AUG 14,84	0.005	< 0.001	0.008	0.114	0.003	< 0.002	U 0.256
OCT 9,84	SEP 11,84	0.002	< 0.000	0.005	0.032	0.002	< 0.000	0.039
NOV 6,84	OCT 9,84	0.005	0.000	0.004	0.028	0.002	< 0.000	0.032
JAN 2,85	NOV 6,84	0.002	0.001	0.184	0.016	0.002	< 0.000	0.023

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LAC LA CROIX/CUMULATIVE PRECIP. #33

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.005	< 0.0001	0.0380
FEB 28,84	JAN 31,84	0.002	0.0003	0.0347
MAR 27,84	FEB 28,84	*****	******	0.0891
APR 24,84	MAR 27,84	*****	******	******
MAY 22,84	APR 24,84	0.001	< 0.0001	U 0.0004
JUN 19,84	MAY 22,84	0.004	0.0001	0.0123
JUL 17,84	JUN 19,84	0.001	< 0.0001	0.0071
AUG 14,84	JUL 17,84	< 0.004	0.0002	U 0.0089
SEP 11,84	AUG 14,84	< 0.003	0.0003	U 0.0018
OCT 9,84	SEP 11,84	< 0.001	0.0001	0.0178
NOV 6,84	OCT 9,84	0.000	0.0001	U 0.0151
JAN 2,85	NOV 6,84	0.002	0.0001	U 0.0012

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : OTTER ISLAND/CUMULATIVE PRECIP. 838

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
MAY 22,84	APR 24,84	1250	900	1	69.0	0	31001	2	1	88	C	
JUN 19,84	MAY 22,84	900	900	1	102.0	0	31002	2	1	U 80	FJ	
JUL 17,84	JUN 19,84	900	900	1	87.0	0	31003	2	1	U 88	ACDFJ	
AUG 14,84	JUL 17,84	900	900	1	107.0	0	31004	2	1	U 80	J	H
SEP 11,84	AUG 14,84	900	900	1	35.0	0	31005	2	1	93	C	
OCT 9,84	SEP 11,84	900	900	1	80.0	0	31006	2	1	U 72	CDQFJ	
NOV 6,84	OCT 9,84	900	900	3	85.0	0	31007	2	1	U 82	AQF	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
MAY 22,84	APR 24,84	1982.0	28.4	4.66	0.0788	4.15	G 0.64	G 0.83
JUN 19,84	MAY 22,84	2680.0	20.0	4.42	0.0576	2.65	0.37	0.20
JUL 17,84	JUN 19,84	2499.0	10.5	4.77	0.0416	1.15	0.22	0.10
AUG 14,84	JUL 17,84	2806.0	9.0	G 5.85	0.0348	1.55	0.14	0.16
SEP 11,84	AUG 14,84	1065.0	18.2	4.65	0.0496	2.40	0.25	0.34
OCT 9,84	SEP 11,84	1877.0	12.5	4.83	0.0386	1.55	0.16	0.17
NOV 6,84	OCT 9,84	2289.0	22.9	4.39	0.0614	2.15	0.40	0.13

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : OTTER ISLAND/CUMULATIVE PRECIP. #38 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
MAY 22,84	APR 24,84	0.21	0.97	0.150	0.115	0.110	0.755	0.028
JUN 19,84	MAY 22,84	0.11	0.58	0.040	0.090	0.040	0.400	0.018
JUL 17,84	JUN 19,84	0.05	0.33	0.025	0.025	<T 0.010	0.195	0.007
AUG 14,84	JUL 17,84	D 0.24	0.80	0.030	0.130	U 0.865	0.145	U 0.270
SEP 11,84	AUG 14,84	0.08	0.44	D 0.050	0.045	0.015	0.315	0.008
OCT 9,84	SEP 11,84	0.05	0.29	0.020	0.065	0.020	0.240	0.005
NOV 6,84	OCT 9,84	0.06	0.30	0.030	0.105	<T 0.015	0.270	<T 0.004

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
MAY 22,84	APR 24,84	G 0.016	< 0.001	D 0.012	0.099	0.005	< 0.002	0.140
JUN 19,84	MAY 22,84	0.004	< 0.001	0.004	0.032	0.001	< 0.002	0.037
JUL 17,84	JUN 19,84	0.002	< 0.001	0.003	0.029	0.007	< 0.002	0.047
AUG 14,84	JUL 17,84	0.002	< 0.001	U 0.049	0.035	0.009	< 0.002	0.033
SEP 11,84	AUG 14,84	0.007	< 0.001	0.005	0.097	0.004	< 0.002	G 0.188
OCT 9,84	SEP 11,84	0.007	< 0.001	0.003	0.026	0.003	< 0.002	0.036
NOV 6,84	OCT 9,84	0.008	< 0.001	0.002	0.015	0.003	< 0.002	0.019

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : OTTER ISLAND/CUMULATIVE PRECIP. #38

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
MAY 22,84	APR 24,84	0.002	0.0003	0.0219
JUN 19,84	MAY 22,84	0.001	0.0001	0.0380
JUL 17,84	JUN 19,84	0.001	0.0001	0.0170
AUG 14,84	JUL 17,84	0.002	0.0011	G 0.0014
SEP 11,84	AUG 14,84	< 0.002	0.0001	0.0224
OCT 9,84	SEP 11,84	0.001	0.0001	0.0148
NOV 6,84	OCT 9,84	< 0.001	0.0001	0.0407

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PICKLE LAKE/CUMULATIVE PRECIP. #36 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES		SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	735	740	2	16.2	0	13813	2	1		97	C	HM
FEB 28,84	JAN 31,84	740	735	2	31.2	0	13814	2	1		83	C	
MAR 27,84	FEB 28,84	735	740	2	12.1	0	13815	2	1		96	BCD	HC
APR 24,84	MAR 27,84	740	735	1	0.8	9	13570	2	1		11		
MAY 22,84	APR 24,84	735	730	3	45.5	0	13816	2	1	U	85	BF	
JUN 19,84	MAY 22,84	800	800	1	94.0	0	13817	2	1		92	CQ	
JUL 18,84	JUN 19,84	800	800	1	68.0	0	13818	2	1		91	CQ	
SEP 11,84	JUL 18,84	800	1000	1	110.0	0	13819	2	1		85	CD	
OCT 9,84	SEP 11,84	1000	1100	3	70.0	0	13821	2	1		86	C	
NOV 6,84	OCT 9,84	1100	1045	2	85.0	0	13822	2	1	U	42	ACQG	C
DEC 4,84	NOV 6,84	1045	1215	3	50.8	0	13823	2	1	U	36	CFGJ	
JAN 2,85	DEC 4,84	1215	1120	2	50.0	0	13824	2	1	U	59	FJQ	

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	515.0	4.5	5.07	0.0272	0.35	<W 0.01	0.03
FEB 28,84	JAN 31,84	850.0	16.0	4.54	0.0488	1.35	0.38	0.20
MAR 27,84	FEB 28,84	379.0	6.5	G 5.84	0.0272	0.45	0.05	0.23
APR 24,84	MAR 27,84	3.0	*****	*****	******	*****	*****	*****
MAY 22,84	APR 24,84	1265.0	15.4	*****	0.0312	3.40	0.28	U 1.31
JUN 19,84	MAY 22,84	2818.0	7.4	5.75	0.0184	1.25	0.22	0.30
JUL 18,84	JUN 19,84	2012.0	5.1	5.04	0.0242	0.50	0.08	0.07
SEP 11,84	JUL 18,84	3043.0	7.6	5.20	0.0260	1.05	0.16	0.20
OCT 9,84	SEP 11,84	1973.0	9.2	5.09	0.0288	1.20	0.17	0.26
NOV 6,84	OCT 9,84	1165.0	2.5	5.68	0.0194	0.10	<W 0.01	0.05
DEC 4,84	NOV 6,84	598.0	12.0	5.03	0.0334	1.25	0.31	0.22
JAN 2,85	DEC 4,84	964.0	11.8	4.77	0.0366	0.85	0.21	0.12

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PICKLE LAKE/CUMULATIVE PRECIP. 836 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	0.09	0.06	0.015	<W 0.005	0.080	<T 0.002	0.014
FEB 28,84	JAN 31,84	0.09	0.25	0.020	<T 0.005	0.085	0.190	0.009
MAR 27,84	FEB 28,84	0.31	*****	0.075	0.020	0.235	<T 0.002	*****
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	G 0.33	0.47	U 0.290	0.115	G 0.275	0.225	0.036
JUN 19,84	MAY 22,84	0.06	0.51	0.060	0.135	<T 0.010	0.300	0.033
JUL 18,84	JUN 19,84	0.04	0.17	0.010	0.015	0.010	0.045	0.008
SEP 11,84	JUL 18,84	0.06	0.38	0.040	0.025	0.015	0.225	0.011
OCT 9,84	SEP 11,84	0.04	0.24	0.035	0.030	<W 0.005	0.210	0.005
NOV 6,84	OCT 9,84	0.08	0.07	0.010	<W 0.005	0.050	0.010	<T 0.003
DEC 4,84	NOV 6,84	0.35	G 1.84	0.030	B 0.235	B 0.315	0.225	0.013
JAN 2,85	DEC 4,84	D 0.32	0.13	D 0.030	D 0.035	D 0.180	0.070	0.008

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.002	0.002	< 0.006	0.010	< 0.003	< 0.002	0.023
FEB 28,84	JAN 31,84	0.002	< 0.001	0.005	0.022	0.006	< 0.002	0.046
MAR 27,84	FEB 28,84	0.011	< 0.001	0.005	0.046	0.004	< 0.002	0.074
APR 24,84	MAR 27,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	U 0.022	< 0.001	0.005	U 0.359	0.007	< 0.002	U 0.471
JUN 19,84	MAY 22,84	0.006	< 0.001	0.002	0.086	0.003	< 0.002	0.087
JUL 18,84	JUN 19,84	0.002	< 0.001	< 0.003	0.020	0.002	< 0.002	0.017
SEP 11,84	JUL 18,84	0.004	< 0.001	< 0.003	0.043	0.002	< 0.002	0.050
OCT 9,84	SEP 11,84	0.004	< 0.001	0.004	0.034	0.003	< 0.002	0.040
NOV 6,84	OCT 9,84	< 0.001	< 0.001	< 0.004	0.017	0.001	< 0.002	0.024
DEC 4,84	NOV 6,84	0.004	0.001	0.011	0.048	0.006	< 0.000	0.041
JAN 2,85	DEC 4,84	0.002	0.000	0.005	0.026	0.009	< 0.000	0.025

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : PICKLE LAKE/CUMULATIVE PRECIP. #36 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.003	< 0.0001	0.0085
FEB 28,84	JAN 31,84	0.002	0.0001	0.0288
MAR 27,84	FEB 28,84	< 0.004	< 0.0001	G 0.0014
APR 24,84	MAR 27,84	######	######	######
MAY 22,84	APR 24,84	0.001	0.0001	######
JUN 19,84	MAY 22,84	0.001	< 0.0001	0.0018
JUL 18,84	JUN 19,84	< 0.001	< 0.0001	0.0091
SEP 11,84	JUL 18,84	< 0.001	< 0.0001	0.0063
OCT 9,84	SEP 11,84	0.001	0.0001	0.0081
NOV 6,84	OCT 9,84	< 0.002	< 0.0001	0.0021
DEC 4,84	NOV 6,84	0.003	0.0001	0.0093
JAN 2,85	DEC 4,84	0.001	0.0001	0.0170

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/CUMULATIVE PRECIP. #32

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 3,84	900	900	2	18.4	0	95055	2	1	54	C	HM
FEB 28,84	JAN 31,84	900	900	3	32.9	0	95250	2	1	U 46	FIM	
MAR 28,84	FEB 28,84	900	900	3	5.8	0	95252	2	1	54	CD	
APR 24,84	MAR 28,84	900	900	4	*****	*	95253	2	1	***	K	
MAY 22,84	APR 24,84	900	900	3	98.5	0	95255	2	1	83	C	
JUN 19,84	MAY 22,84	900	800	1	87.8	9	95257	2	1	90	C	
JUL 17,84	JUN 19,84	800	800	1	103.7	0	95258	2	1	96	C	
AUG 14,84	JUL 17,84	800	800	1	99.2	0	95260	2	1	87	CA	H
SEP 11,84	AUG 14,84	800	800	1	51.6	0	95261	2	1	102	AC	
OCT 9,84	SEP 11,84	800	800	3	23.3	9	95263	2	1	97	C	
NOV 7,84	OCT 9,84	800	800	3	76.8	0	95264	2	1	93	BC	
DEC 4,84	NOV 7,84	800	900	3	41.8	0	95265	2	1	82		
JAN 2,85	DEC 4,84	900	900	3	65.4	0	95267	2	1	91	C	H

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 3,84	325.0	10.4	4.73	0.0496	0.85	<W 0.01	0.12
FEB 28,84	JAN 31,84	499.0	19.9	4.46	0.0568	1.40	0.53	0.16
MAR 28,84	FEB 28,84	102.0	28.4	4.43	0.0730	2.55	0.72	0.45
APR 24,84	MAR 28,84	0.0	*****	*****	******	*****	*****	*****
MAY 22,84	APR 24,84	2657.0	8.2	6.02	0.0282	1.40	0.21	0.53
JUN 19,84	MAY 22,84	2567.0	6.0	5.16	0.0244	0.90	0.20	0.20
JUL 17,84	JUN 19,84	3265.0	6.5	5.20	0.0300	0.70	0.15	0.13
AUG 14,84	JUL 17,84	2821.0	9.5	5.02	0.0328	0.95	0.15	0.15
SEP 11,84	AUG 14,84	1717.0	9.4	5.11	0.0294	1.40	0.20	0.25
OCT 9,84	SEP 11,84	738.0	10.5	5.22	0.0302	1.50	0.22	0.29
NOV 7,84	OCT 9,84	2343.0	11.5	4.79	0.0396	1.00	0.17	0.12
DEC 4,84	NOV 7,84	1113.0	16.7	4.71	0.0424	1.45	0.45	0.27
JAN 2,85	DEC 4,84	1936.0	6.8	4.98	0.0276	0.40	0.11	<T 0.03

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/CUMULATIVE PRECIP. #32 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 3,84	U 1.05	0.30	0.030	<T 0.010	U 0.785	D 0.070	U 0.130
FEB 28,84	JAN 31,84	0.18	0.42	0.015	<T 0.015	0.155	0.328	0.026
MAR 28,84	FEB 28,84	G 0.57	*****	0.080	D 0.085	G 0.480	0.400	*****
APR 24,84	MAR 28,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.11	0.51	0.080	0.055	0.070	0.180	0.022
JUN 19,84	MAY 22,84	0.11	0.42	0.025	0.050	0.020	0.200	0.009
JUL 17,84	JUN 19,84	0.03	0.26	0.020	0.010	<W 0.005	0.185	<T 0.003
AUG 14,84	JUL 17,84	0.04	0.24	0.040	0.025	<W 0.005	0.230	0.009
SEP 11,84	AUG 14,84	0.06	0.42	0.040	0.030	0.020	0.320	0.006
OCT 9,84	SEP 11,84	0.05	0.39	0.045	0.045	0.020	0.325	<T 0.003
NOV 7,84	OCT 9,84	0.05	0.18	0.015	<T 0.010	<T 0.010	0.145	0.005
DEC 4,84	NOV 7,84	0.09	0.42	0.020	<W 0.005	0.045	0.380	0.005
JAN 2,85	DEC 4,84	0.06	0.06	<T 0.005	<T 0.010	0.030	0.030	<T 0.003

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 3,84	0.002	< 0.001	0.005	0.036	0.005	< 0.002	B 0.156
FEB 28,84	JAN 31,84	0.002	< 0.001	0.010	0.024	0.007	< 0.002	0.059
MAR 28,84	FEB 28,84	*****	*****	*****	*****	*****	*****	*****
APR 24,84	MAR 28,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	APR 24,84	0.014	< 0.001	0.003	0.257	0.002	< 0.002	U 0.354
JUN 19,84	MAY 22,84	0.004	< 0.001	< 0.003	0.070	0.004	< 0.002	0.082
JUL 17,84	JUN 19,84	0.002	< 0.001	< 0.003	0.028	0.007	< 0.002	0.021
AUG 14,84	JUL 17,84	0.003	< 0.001	< 0.003	0.025	0.002	< 0.002	0.020
SEP 11,84	AUG 14,84	0.004	< 0.001	< 0.003	0.045	0.006	< 0.002	0.022
OCT 9,84	SEP 11,84	0.006	< 0.001	< 0.005	0.051	0.002	< 0.002	0.076
NOV 7,84	OCT 9,84	0.003	< 0.001	0.002	0.017	0.001	< 0.002	0.018
DEC 4,84	NOV 7,84	0.005	0.000	0.003	0.051	0.002	< 0.000	0.065
JAN 2,85	DEC 4,84	< 0.001	< 0.000	< 0.003	0.009	0.002	< 0.000	0.007

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/CUMULATIVE PRECIP. 032 PAGE : 3

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 3,84	< 0.004	< 0.0001	0.0186
FEB 28,84	JAN 31,84	0.004	0.0003	0.0347
MAR 28,84	FEB 28,84	*****	******	0.0372
APR 24,84	MAR 28,84	*****	******	******
MAY 22,84	APR 24,84	0.001	0.0001	0.0010
JUN 19,84	MAY 22,84	< 0.001	< 0.0001	0.0069
JUL 17,84	JUN 19,84	0.001	< 0.0001	0.0063
AUG 14,84	JUL 17,84	< 0.001	< 0.0001	0.0095
SEP 11,84	AUG 14,84	< 0.002	0.0001	0.0078
OCT 9,84	SEP 11,84	< 0.002	0.0001	0.0060
NOV 7,84	OCT 9,84	< 0.001	0.0001	0.0162
DEC 4,84	NOV 7,84	0.000	0.0004	0.0195
JAN 2,85	DEC 4,84	0.000	0.0000	0.0105

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WINISK/CUMULATIVE PRECIP. 829 PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START HR.	SAMPLING END HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 00-APIOS 09-AES	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICIENCY (%)	COMMENTS FIELD	COMMENTS OFFICE
JAN 31,84	JAN 4,84	1015	1500	2	18.2	9	11784	2	1	8		
FEB 28,84	JAN 31,84	1500	1100	2	24.6	9	11801	2	1	0	G	
MAR 27,84	FEB 28,84	1100	1100	3	33.7	9	11816	2	1	7		
MAY 22,84	MAR 27,84	1100	1100	1	24.8	9	11829	2	1	96	A	C
JUN 22,84	MAY 22,84	1100	1100	1	120.1	9	11866	2	1	0	EG	
JUL 30,84	JUN 22,84	1100	1700	1	149.2	9	38319	2	1	43	ACQJ	M
SEP 26,84	JUL 30,84	1700	1030	3	98.6	9	35233	2	1	107	CD	
NOV 7,84	SEP 26,84	1030	1100	3	41.5	9	35258	2	1	100	C	
DEC 18,84	NOV 7,84	1100	2230	2	96.2	9	35309	2	1	36		M

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH LAB	TOTAL H+ TO PH8.3 MG/L	SULPHATE MG/L	NITRATE AS N MG/L	CALCIUM MG/L
JAN 31,84	JAN 4,84	52.0	*****	U 7.55	0.0136	*****	*****	*****
FEB 28,84	JAN 31,84	0.0	*****	*****	******	*****	*****	*****
MAR 27,84	FEB 28,84	78.0	43.5	U 7.24	0.0184	U 6.30	0.38	*****
MAY 22,84	MAR 27,84	779.0	29.5	U 7.47	0.0210	G 4.00	0.36	U 3.05
JUN 22,84	MAY 22,84	0.0	*****	*****	******	*****	*****	*****
JUL 30,84	JUN 22,84	2690.0	8.7	6.77	0.0184	0.85	0.11	0.71
SEP 26,84	JUL 30,84	3439.0	19.6	5.04	0.0366	1.30	0.09	0.19
NOV 7,84	SEP 26,84	1348.0	18.2	5.40	0.0204	1.15	0.14	0.30
DEC 18,84	NOV 7,84	1146.0	29.7	4.85	0.0346	1.70	0.20	0.40

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WINISK/CUMULATIVE PRECIP. #29 PAGE : 2

REMOVAL DATE	EXPOSURE DATE	CHLORIDE MG/L	KJELDAHL AS N MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	PHOSPHOR MG/L
JAN 31,84	JAN 4,84	*****	0.38	*****	*****	*****	*****	0.013
FEB 28,84	JAN 31,84	*****	*****	*****	*****	*****	*****	*****
MAR 27,84	FEB 28,84	U 4.60	*****	*****	*****	*****	*****	*****
MAY 22,84	MAR 27,84	0.51	0.62	U 0.425	0.180	0.340	0.435	0.017
JUN 22,84	MAY 22,84	*****	*****	*****	*****	*****	*****	*****
JUL 30,84	JUN 22,84	0.25	0.76	0.120	0.030	0.045	0.415	0.058
SEP 26,84	JUL 30,84	U 2.87	0.18	0.230	0.110	U 1.000	0.085	0.007
NOV 7,84	SEP 26,84	U 2.81	0.18	0.235	0.075	U 1.580	0.080	0.005
DEC 18,84	NOV 7,84	U 4.85	0.15	0.400	0.110	U 2.900	0.025	0.009

REMOVAL DATE	EXPOSURE DATE	MANGANSE MG/L	NICKEL MG/L	ZINC MG/L	IRON MG/L	LEAD MG/L	VANADIUM MG/L	ALUMINUM MG/L
JAN 31,84	JAN 4,84	*****	*****	*****	*****	*****	*****	*****
FEB 28,84	JAN 31,84	*****	*****	*****	*****	*****	*****	*****
MAR 27,84	FEB 28,84	*****	*****	*****	*****	*****	*****	*****
MAY 22,84	MAR 27,84	U 0.012	< 0.001	0.007	U 0.488	0.012	< 0.002	U 0.607
JUN 22,84	MAY 22,84	*****	*****	*****	*****	*****	*****	*****
JUL 30,84	JUN 22,84	0.002	< 0.001	0.002	0.032	0.002	< 0.002	0.035
SEP 26,84	JUL 30,84	0.002	< 0.001	0.003	0.008	0.002	< 0.002	0.012
NOV 7,84	SEP 26,84	< 0.001	< 0.001	0.005	0.023	0.004	< 0.002	0.018
DEC 18,84	NOV 7,84	< 0.001	0.001	0.007	0.027	0.007	< 0.000	0.022

ONTARIO MINISTRY OF THE ENVIRONMENT
CUMULATIVE SAMPLING ANALYSIS RESULTS
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WINISK/CUMULATIVE PRECIP. #29

REMOVAL DATE	EXPOSURE DATE	COPPER MG/L	CADMIUM MG/L	FREE H+ MG/L
JAN 31,84	JAN 4,84	*****	******	U 0.0000
FEB 28,84	JAN 31,84	*****	******	******
MAR 27,84	FEB 28,84	*****	******	U 0.0001
MAY 22,84	MAR 27,84	< 0.002	< 0.0001	U 0.0000
JUN 22,84	MAY 22,84	*****	******	******
JUL 30,84	JUN 22,84	0.001	0.0001	0.0002
SEP 26,84	JUL 30,84	0.001	0.0001	0.0091
NOV 7,84	SEP 26,84	< 0.002	0.0002	0.0040
DEC 18,84	NOV 7,84	0.003	0.0004	0.0141